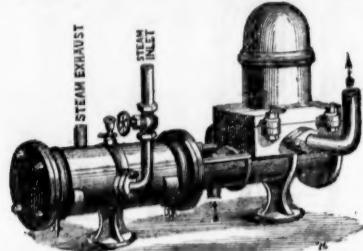




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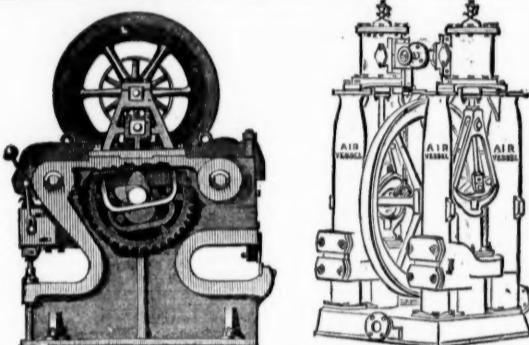
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It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and throughout the United States and England. Read extracts of testimonials:—

The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had one of your stone breakers in use during the last twelve months, and Captain Morcom reports most favourably as to its capabilities of crushing the materials to the required size, and its great economy in doing away with manual labour.

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Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes, for fine road metal, free from dust.

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BLAKE'S PATENT STONE BREAKER

In Chancery.

BLAKE v. ARCHER, NOVEMBER 12, 1867.

His Honour the Vice-Chancellor Wood having found a VERDICT in FAVOUR of the PLAINTIFFS in the above Cause, establishing the VALIDITY of BLAKE'S PATENT, and made a DECREE for an INJUNCTION to RESTRAIN the DEFENDANTS, Messrs. THOMAS ARCHER and SON, of Dunston Engine-Works, near Gateshead-on-Tyne, from INFRINGING such PATENT, and ordering them to pay to the Plaintiffs the costs of the Suit.

ALL PERSONS are hereby CAUTIONED against MANUFACTURING, SELLING, or USING any STONE BREAKERS similar to BLAKE's, which have not been manufactured by the Plaintiffs. Application will forthwith be made to the Court of Chancery for INJUNCTIONS AGAINST ALL PERSONS who may be found INFRINGING BLAKE'S PATENT after this notice.

SOLE MAKER IN ENGLAND,

H. R. MARSDEN, SOHO FOUNDRY, MEADOW LANE, LEEDS.

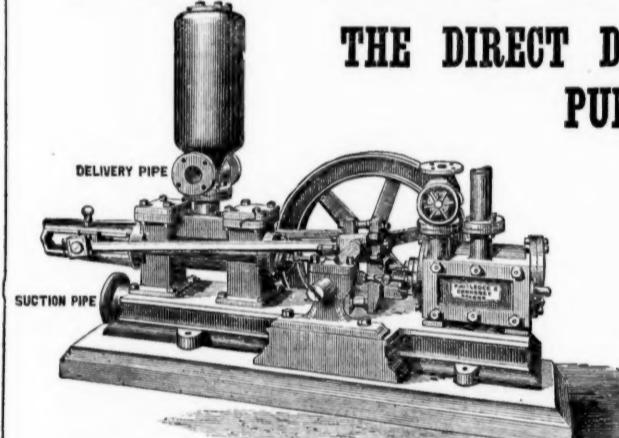
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PATENT SELF-INDICATING WEIGHING MACHINE,  
Capable of WEIGHING TWELVE TUBS A MINUTE.

## Original Correspondence.

## MINING IN IRELAND.

"Memoirs of the Geological Survey of Ireland, Illustrating part of the County of Cork, published by order of the Lords' Commissioners of Her Majesty's Treasury."

The above is the title of a pamphlet to which our attention has been directed, and from which we make the following extracts. The gentlemen engaged in the Geological Survey of the South-West of the county of Cork, have laid down the entire district as old and new Red Sandstone, grit, &c., but we learn from the most eminent and experienced practical mining engineers in the United Kingdom that the geologists have committed a great and serious blunder, and one calculated to do infinite mischief in a mineral point of view to the county at large; that the South-West of Ireland belongs to and forms part of the Great Devonian formation—in other words, clay-slate, or killas of the Cornish miner, and the most metalliferous of all known rocks. The theory of the geological surveyors on the origin or formation of mineral veins or lodes is both curious and unique, as will be seen by the following extracts:

"None of the beds of grit and slate are in themselves continuous throughout the formation, which is made up of local cakes of sand and mud, deposited side by side over the area. The copper was distributed here and there among these beds as a copper sand, or copper mud, mixed with the siliceous and argillaceous sands and clays. Eventually these beds were greatly indurated, greatly disturbed, and tilted up into highly inclined, often vertical, or even inverted positions, and bent into numerous folds, and large parts of them were from time to time cut off and removed by denudation, so as to produce successive surfaces upon them, till at last the present surface was arrived at. The disturbances <sup>first</sup> have been accompanied by many fractures, causing fissures, some of which <sup>still</sup> remain more or less open below in different parts of their course. Some action subsequently determined the segregation of some of the copper ore out of the beds into some of those hollow fissures by some process, of the exact nature of which we are ignorant, and thus new 'mineral veins' or true 'lodes' were formed here and there about the country. Some of these fissures and cracks contain strings and bunches of exceedingly rich ore, but with the exception of the Berehaven Mines none of the lode (whether true or false) of the south-west part of the county of Cork have yet proved to have a sufficient quantity of ore in any one locality to make a rich mine. The very fact of the wide diffusion of copper ore in small quantities over so large an area is against rather than in favour of the probability of rich mines being found. It shows that the copper ore occurs chiefly as a mechanical deposit derived from the waste and destruction of some original mineral vein district, and does not form here an original mineral vein district itself. The fact of small veins and strings of rich ore occurring here and there agrees well with the above hypothesis, but is a fact of great danger to the un instructed spectator, as being likely to lead him into operations which will not be profitable. The south-western part of the county of Cork is a district which, perhaps more than any other, requires great caution as well as skill and prudence to mine with profits, and it is a most delusive district to the speculator, from its containing so many specimens of rich ore, many of which are not indications of the existence of much more ore than was actually seen in the specimens."

The above extracts are verbatim copies from the published Geological Survey of the South-West of Ireland, by order of the Lords' Commissioners of Her Majesty's Treasury; and when men are paid by Government to condemn *in toto* the mineral resources of the country it is not to be wondered at that capitalists seek an outlet for the investment of their money in the remotest corners of the globe instead of in Ireland. We are deliberately told that there is not copper ore enough in the South-West of Ireland in any one locality to make a rich mine; that the mineral veins were formed from copper sand or copper mud, or by the segregation of some of the copper ore out of the beds by some process, of the exact nature of which the geologists are ignorant; also that the copper ore occurs chiefly as a mechanical deposit, derived from the waste and destruction of some original mineral vein district, and does not form here an original mineral vein district itself. We are curious to know where the original mineral vein alluded to existed. Was it in the moon? We fear, however, that the ideas of the geologists are embedded in copper sand or copper mud.

After devoting more space than we had intended to the learned and scientific dissertation of the geologists, we would venture to enquire what constitutes a true mineral vein or lode? We are informed that in the great mining districts of Cornwall and Devon the true lodes generally run in an east and west direction, and vary in breadth from 6 in. to 20 ft., with well-defined walls at each side; that these east and west lodes are frequently intersected by cross lodes, termed cross-courses, slides, flockans, &c., and where these occur the greatest quantity of minerals are invariably found. Now, it so happens that in the very districts condemned by the geologists there are the mines of Ballycummisk, Coosheen, Cappagh, Roaring Water, Broadhead, &c. Ballycummisk, Coosheen, and Cappagh have produced copper ore of the value of 100,000*l.*? Yet we are informed by the geologists "that many of these specimens of 'rich ore,' have not indicated the existence of the district of much more ore than was actually seen in the specimens."

We think it would require a goodly number of "rich specimens" and small strings or veins to make 100,000*l.* worth of copper ore. The lodes of the Ballycummisk district, as in Devon and Cornwall, run in an east and west direction; they are from 2 to 20 feet wide, with regular and well-defined walls: they are also intersected by cross lodes or cross-courses, slides, flockans, and, furthermore, this great formation of mineral veins or lodes is distinctly traceable from Roaring Water Mine to the Broadhead Mine, a distance of 20 miles. Ballycummisk Mine is 200 fathoms deep, and has had a continuous course of ore from near the surface to the bottom, and still going down as good as ever. Cappagh Mine is 90 fathoms deep, with a continuous lode 10 feet wide. Coosheen Mine is 56 fathoms deep, with continuous lodes from 6 to 20 ft. wide, but the two latter mines can only be considered as infant concerns. They must be sunk 200 or 300 fathoms deep. We hear it continually repeated that Ireland is a purely agricultural country, and must, therefore, be governed by exceptional measures, but it appears to be altogether lost sight of that we have valuable mines, quarries, and fisheries, which, if properly worked, would not only give remunerative employment to the people, but put an end to the mania for a bit of ground, and also emigration.

Why, we may ask, does not some Irish peer or commoner introduce some exceptional measures in the Imperial Parliament for the practical development of the resources of the country? Our representatives appear to be ignorant of the vast importance and value of the mineral resources of this country. Will they ask the Lords' Commissioners of Her Majesty's Treasury if a more beneficial way of expending the public money cannot be devised than paying people to publish absurd theories, and doing incalculable mischief, in a mining point of view, to the country? This is too grave a subject to be treated so lightly, or left to rest on the authority of amateur geologists, as we shall prove from the following facts, which cannot be controverted.

Some years ago Mr. Samuel Hyde, an eminent merchant of London, took up the Ballycummisk Mine, and kind friends in this country most affectionately warned him to have nothing to do with it, repeating the story of the geologists, that the ore was so rich near the surface it would never last to any depth, and that he would lose a fortune by it. Did he listen to their advice? No; but took the advice of practical miners, and what is the result? The mine is now 200 fms. deep, and there has been a continuous course of ore from near the surface to the bottom, and a splendid course of ore still going down. Now, had Mr. Hyde stopped short when advised by his friends, the geologists' theories would have been confirmed, and the district condemned *in toto* as containing no minerals of value. Mr. Hyde, however, with the indomitable spirit and pluck of an Englishman, persevered through evil report and good report, and single-handed solved one of the greatest problems of the day—that rich copper ore is continuous in depth in the south-west of the county of Cork, and that it is not a most delusive district to the speculator; but this is not all, for the fact hereby established beyond all controversy will be an incalculable benefit to succeeding generations in the south-west of Ireland. The immediate benefit to the district is the resumption of operations in Goosene Mine by Mr. Hyde, and the Cappagh Mine, we are informed, will soon follow, and, no doubt, all the mines in the district, so that, owing to the untiring and persevering efforts of one man, we shall soon see our mines rank in value and extent with the mines of Cornwall and Devon. In the developing of the Ballycummisk Mine hundreds of people for years have found constant employment, and been paid a fair day's wages for a fair day's work. Men of capital will not now hesitate to boldly work the mines in the south-west of Ireland in depth, where they before hesitated and doubted, knowing well from ascertained facts that perseverance will be crowned with success. We often hear of

gentlemen for political services being made baronets, knights, &c., and otherwise rewarded by Government; but we think that the man who, by the expenditure of his capital and energetic enterprise, has conferred incalculable benefits on this country, is richly and deservedly entitled to some mark of approbation and distinction by the Lord-Lieutenant of Ireland. Honour should be rendered to whom honour is due.

## SLATE PRODUCE OF LANCASHIRE AND CUMBERLAND.

SIR.—Mr. Pattison, in his able papers on Slate and Slate Quarries puts the produce of Lancashire and Cumberland at 35,000 tons per annum. Knowing the district well, I feel bound to state he is very much under the mark. The produce of the North Country quarries cannot be less than 15,000 tons per annum. Though known to the trade as Westmoreland slates, they chiefly come from Lancashire, and are used principally in the North of England and the West of Scotland, where, in consequence of heavy rains and strong gales of wind, Welsh slates are found not sufficiently durable.

Broughton-in-Furness, Sept. 8. A QUARRY PROPRIETOR.

## THE AUSTRALIAN UNITED GOLD MINING COMPANY.

SIR.—Having lately returned from the above company's mines, a few words from me in confirmation of the official reports may possibly be acceptable to those interested. At the time I left the mines, in May, the stamping-house was not completed, but we had then about 3000 tons of auriferous quartz raised to surface. It will now be seen by the manager's report, dated July, that stamping had commenced with 24 head of stamps, one-quarter of our intended ultimate power. The result of this first crushing cannot fail to be highly satisfactory to the shareholders; it is much better than we had expected, and above the average of the neighbouring mines, all of which are of great value. However, with even the yield of 13 dwt. per ton of quartz, Mr. Kitto found that there was a waste of over 2 ozs. of gold per ton of tailings. He, therefore, discontinued this premature crushing until the apparatus for saving the fine gold, and the roasting-house for treating the pyrites, were erected. The assay of the pyrites in the colony agrees with that made by Messrs. Johnson and Matthey, of Hatton-garden, on a sample sent home from the mines by the June mail, which yielded over 2 ozs. of gold per ton. By private information received this last mail, I learn that the mines belonging to the Australian United Company, together with the adjacent ones, on the same line of reefs, which have been more fully developed since our operations have drained their ground, are creating quite a sensation in Ballarat. Several companies have been formed there, and all the available auriferous ground on the same line of quartz reefs has been purchased.

So highly do the public think of these mines—now that their eyes have been opened—that the shares in one instance rose in market value about 700 per cent., without any work having been done. In the case of our company, with the stock in England, the shares are only at a slight premium. Surely those on the spot, used to quartz mining, are best able to give a correct estimate of the value of these mines. From a stay of 12 months in Victoria, and close attention to the subject of gold mining, it is my conscientious belief that these mines are amongst the most valuable in the colony, and quite capable of returning, when more fully developed, at least cent. per cent. profit on the capital expended. Up to present advices, operations have only extended over a period of 12 months, and it will be seen by the reports of the captains and engineer the large amount of work which has been done in that time. The news from the Central Mine (one of the Australian United) is also satisfactory. The engine-house and engine are erected, and ready to work by the time the masons have completed the chimney-stack, the shaft having been already sunk through the hard rock to water-level. In the neighbouring mine to this the deep ground has lately been struck, with the lead running direct for the Central ground. Shareholders may see a box of auriferous quartz from their mine, at the office of the company, in London. H. W. LAMB.

## NEW QUEBRADA COMPANY.

SIR.—Will you kindly find room for the enclosed, which will interest the shareholders of the New Quebrada Company generally, many of whom are, I know, subscribers to your paper? While so many limited liability companies have been wound-up, with disastrous results to the shareholders, the intrinsic value of this undertaking has alone saved it hitherto from a similar fate. It will be seen by the enclosed that affairs are at a very low ebb, notwithstanding which I am still convinced that they are not irretrievable, but on the contrary, if bygones be allowed to be bygones, excepting so far as to profit by past errors, and all personal feelings merged in a sincere and united effort to regain the position we ought never to have lost, that our shares, at no distant period, will be as they formerly were, at a premium, and will pay us good and increasing dividends. I hold, I believe, as many, if not more shares, than are individually held by four out of the six present directors; and with this large pecuniary interest, and no inconsiderable knowledge of everything connected with the company, I shall be happy to make every effort in my power to assist my fellow-shareholders in obtaining the object we all have in view. Moorgate-street, Sept. 9. F. H. HEMMING.

## TO THE DIRECTORS OF THE NEW QUEDRADA COMPANY.

GENTLEMEN.—On June 11 last I received a letter from Mr. Eyton, a member of your board, in which he says, "The board of directors of the New Quebrada Company have requested me to convey to you their sense of gratitude for the timely assistance rendered by you in the matter of the conveyance." It was with much pleasure that as soon as I knew the difficulty the directors were in I offered any aid in my power, being sure that from the knowledge, and its peculiar sources, which I possessed, it would not fail to have a material and very beneficial bearing on the important point in question. On June 1 I made the offer, and on the 4th I swore an affidavit, which was filed the same day. On the 6th the case came on again in the Rolls Court, and continued on the 7th, when the company's counsel read my affidavit, and I am told by those who were present that it was evident it had settled the question. The Master of the Rolls said he would take home the paper, and give his judgment on a future day. On June 28 that judgment was delivered, and I had the satisfaction of being present, when it was not difficult to gather the bearing on the favourable decision of the Court which my affidavit had had. On my return from the Court I wrote out, as nearly as I could recollect, the decree of the Master of the Rolls, and sent a copy to your secretary, Mr. Wright, who was also in Court, and who acknowledged that "I had not only given the full spirit, but almost the very words of the judgment."

Since being the cause and effect, I must now express my great regret that I had not earlier acquainted with the strait in which the directors were, or that I had not been associated with the direction when it was last reconstituted, as I could have saved all the anxiety which has been created as to the question of the conveyance during the last twelve months; and, what is still more, have saved the very large amount of costs which this litigation has engendered; for, although the quantity of land has been decided in our favour, it has unfortunately been decided that the company must pay not only the whole of their own costs, but also those of Messrs. Dent, &c., who, although not greatly interested in the result, were necessarily parties to the suit. Mr. Bird, who resisted the just claims of the company, having to pay his own costs. Nor is this the only drain on the company's slender funds caused by this delay. The last time the directors met the shareholders, on Dec. 18, 1868, the Chairman informed us that, pending the settlement of the conveyance, they had decided to suspend all operations, and had reduced the number of persons on the estate to a minimum, in which, I think, they acted prudently. But the number of persons so employed, although, as I am informed, at a cost of something like 5000*l.* a year, are unable to do more than prevent the absolute plunder of the company's movable property, even if they can do that: while any attempt on their part to stem the tide of ruin and decay caused by the collapse and the lapse of time, which I hear is ebbing at a fearful rate, would be as futile as the vain efforts of Mrs. Partington to keep out the rising tide with her mop.

I now come to the more important point of Mr. Eyton's note, in which he says: "It is the intention of the board to hold a conference with the more influential of the shareholders before the meeting, of which due notice will be given." During the three months since I received that note I have sent a copy of it to many of the shareholders, who have written to me to know what was done, or about to be done; and have shown it, together with a copy of my correspondence with the office, to several others who have called on me. Some have suggested, while all agree in the opinion, which they have requested me to urge on the directors, that to make the proposed conference of any practical utility it is absolutely necessary that when they send out their invitations they should send to each invited shareholder a short printed synopsis, embracing the following objects:—

1.—The detail of plan or plans which, after having been a year and a quarter on the board, the directors themselves are prepared to recommend.

2.—An estimate of the cost at which such plan or plans can be carried out.

3.—The means by which they propose to raise the money to carry out such plans as the directors and members of the conference may agree upon.

Without some such preliminary measure the meeting must be practically useless, as it is idle to suppose that 10 or 20 gentlemen called together to hear for the first time a variety of plans proposed can give the necessary consideration, while by adopting the above course ample time will be given, not only for them to consider it, but to consult with practical men among their acquaintances, should they deem it necessary.

From the conversations I have had with several shareholders, I believe there are some who, although unable to propose a complete plan, would be able to

give a very valuable opinion in deciding upon rival schemes, especially as to raising the necessary funds, which is a very important matter, as I believe it is well understood that the whole of what remains of the capital of 255,000*l.* will be fully absorbed by the existing liabilities.

After the meeting in December last, I heard several shareholders speak with satisfaction of the present directors having consulted Mr. Wm. Bridges Adams, as it has been a constant remark that on three successive boards there was not a single member whose previous occupation had been such as to bring any practical experience to bear on an undertaking of this peculiar description, and what was still more singular, that till then, they had never engaged the services of any engineer to consult in London of the standing as to character and ability for which Mr. Adams is so well known. I feel sure that it would be very satisfactory to those who take part in the conference, that the directors should secure his attendance on that day.

As to the time of holding the conference, the present moment is not opportune, as so many, both in town and country, migrate during this month, and I would, therefore, suggest that it should be held early in October, which will give ample time to give the fourteen days' notice for the ordinary half-yearly meeting to take place, as required by the Articles of Association. In the latter part of the same month.

25, Moorgate-street, E.C., Sept. 7.

FREDR. H. HEMMING.

## MINING IN PORTUGAL AND IN ENGLAND.

SIR.—I have just read in the *Times* newspaper how an English gentleman connected with mining in Portugal, has been created a viscount in that country, as a reward and an acknowledgment by the Portuguese Government, for his labours in introducing capital, and assisting in developing the mineral resources of that country. In England the mineral products exceed 30,000,000*l.* sterling a year; and if I remember rightly, when the Prince of Wales and Duke of Cornwall came of age, a few years ago, there was a hope expressed in your columns, as well as in one of the daily papers, that some token of merit should be bestowed on some few of the gentlemen who had spent the best part of their lives in upholding the mining interests of this great country, and also in developing its resources, so important to the trade and commerce of the country. I think, also, that Mr. R. Davey, then M.P. for Cornwall, together with other members, urged these claims on Lord Palmerston, and were told in reply that no honours or titles were to be bestowed on that occasion.

But since then honours of knighthood have been plentifully bestowed on almost every calling, the last recipient a solicitor, as a reward for his services to the Liberal party in politics.

Can nothing be done to acknowledge the importance of the mining interests? Some of the men whose names were household words in your columns, and were handed to the Government of the day by Mr. Davey and others, have gone to their long rest; but some remain, and I am reminded to write you on behalf of the mining interest of my country on seeing how nobly the Government of Portugal has behaved. CORNISHMAN.

## ADVERTISEMENT.

## MINING IN COLORADO.

SIR.—A circular under the heading of "British and Colorado Mining Bureau" has been placed in my hands, in which my name is used, and in which so many misstatements are made, that I cannot allow it to pass unanswered. I should not have noticed such a publication, but as this is calculated to mislead those under whose eye it may fall, and possibly of inducing them to invest their money in a questionable enterprise, I feel compelled, in justice to myself and others, to refute its statements as far as they refer to me.

These statements are substantially as follows:—

1.—Prof. Hill was sent to Colorado by some Swansea capitalists before the completion of the Atlantic and Pacific Railway.

2.—He forwarded overland, more than 5000 miles, 70 tons of ore, for reduction at Swansea.

3.—The net profits of the transaction were £6886 (gold).

4.—He was provided with money by Swansea capitalists to erect smelting works in Colorado.

5.—These works are now the largest in the country, and the owners are making immense fortunes.

My answer to these statements is—

1.—No Swansea or English capitalist ever had any interest in my coming to Colorado before or since the building of the Atlantic and Pacific Railway (so far), or ever furnished me any money for the purpose, or ever expected to derive any benefit whatever from my business, unless it was by buying regalia from the company which I represent, and with which they have no connection. The view held by Englishmen who knew of my plans was that there was capital enough in the United States to erect smelting works in Colorado, if there were any field for such an enterprise.

2.—The ore forwarded to Swansea were purchased by the representative of a Boston and New York house, and were sent overland 700 miles, instead of 5000 miles, as stated. This is the distance from our mines to the Missouri River, from which they were sent by water transportation to Swansea.

3.—The net profits of the transaction were £100, instead of plus £6886. In other words, the investors lost £100. If they had paid for the same lot of ore the price which such ore commands here now, and shipped it to Swansea, or should ship it to Swansea now with the advantages of improved modes of transportation, the loss on the transaction would be between £4000 and £5000.

4.—Not £1 of Swansea or foreign capital has been employed in the enterprise with which I am connected, or in any enterprise with which I have ever been connected.

5.—The smelting establishment which I am managing here consists of two reverberatory furnaces, one of which is now not used for want of ore. That this statement may not give to those not acquainted with this country an incorrect impression of its resources, I should state that there is a very large quantity of productive material taken from our mines. More than 99 per cent. of it is a quartz gangue, which contains free gold in moderate quantities. This material can be worked by amalgamation, at a very small cost, and profitably. The entire gold which it contains would not be sufficient to cover the cost of smelting it, to say nothing of the cost of mining. It is only the iron and copper pyrites which can be smelted, and the proportion of these, as indicated above, is small.

I submit this paper for publication in the *Mining Journal* with no other motive than to prevent the use of my name in connection with statements made only to obtain capital which otherwise might not be forthcoming. The correctness of my assertions can be easily ascertained by anyone intending to invest money in the scheme proposed by the circular referred to. N. P. HILL.

lode, running 30° south of east, first with the Cwmsymon north lode, and then further east with the South Darren lode, running 5° north of east. The South Darren lode is also making a good course of east of the junction. The junction of the lodes of Powel United, Broniford, and East Darren, and the results produced by them, are so very similar that no doubt in my mind exists as to finding great and lasting bodies in veins similarly situated, and I can only think, with Hudibras, that those who think differently may be put in that class of which he says—

"That of all the blind that blind there be,  
There's none so blind as those who will not see."

If all be well, next week I hope to give you a few remarks on the junction of lodes at Goginan and Bwlch Consols  
Goginan, Sept. 7.

ABSAJOM FRANCIS.

VIRTUOUS LADY MINE.

SIR.—The lode referred to in my telegram of last Friday, which you so kindly announced to me, is turning out even far more successful than was ever anticipated; it is one mass of rich gossan, a large portion of which is thickly impregnated with black, grey, and malleable copper ore. On Tuesday I brought from the mine a fair specimen of what is being saved, about 2 lbs. broken from the lode, and placed it in the hands of our assayer here, Mr. Harvey, who pulverised the whole down, and produced a result of 73% per cent. copper. Since then the lode is still richer, and I feel confident that we may reap upon a product of 9 to 10 per cent.

To show what profits can be made in this mine, I will simply mention that two men only (we have not attempted to push the matter, since we are giving our entire energies and attention to the erection of the machinery) in four days, at an entire cost of about 25s., have broken and saved out of this gossan lode quite 3 tons of copper stuff, which, with the little extra price we shall get for the silver it contains, is not worth less than 20s. I do not put this forward as a grand success, far from it; in most mines it would indeed be so, but as regards the "Virtuous Lady," it is simply a preliminary and trifling indication as to what we may expect upon thoroughly exploring the mine to the deep. I should like to say much, but have no time; however, I will not lose this opportunity to openly predict to the world my strong faith and opinion that within 12 months the Virtuous Lady Mine will be one of the most valuable mining properties in existence. These are strong expressions, perhaps, but depend upon it my words will be verified.

THOMAS J. BARNARD.

Abbey Mead, Tavistock, Sept. 9.

BEDFORD CONSOLS.

SIR.—Seeing some remarks in last week's Journal, I was induced to take a ramble in the direction of this mine, and also to visit its neighbours, more particularly Okel Tor and Gawton. Both of these mines I was glad to find in a most prosperous state, and in a position to make regular profitable returns. At the first-named mine, to the west, I was informed that the lode was several fathoms wide, going east, and down below (I think) the 80 fm. level, yielding an abundance of mudi and some good quality copper ore; but they are apparently working under some little disadvantage, in consequence of the long distance from the shaft. The Gawton Mine adjoins on the east, or Devonshire, side of the River Tamar, and on the same lode, where the workings are apparently conducted with great spirit, with two powerful steam-engines, pumping and drawing; but the most remarkable feature was the large rocks of rich copper ore then coming from the pit's mouth to the dressing floors, which the agent, whom I think a very intelligent man, informed me the lode where this ore was coming from, at the 70 fm. level, was yielding 8 tons to the fathom, and the lode altogether many fathoms wide. This I understand to be going east of the shaft, towards the adjoining mine, where I proceeded, and accidentally met with the resident agent, who gave me every needed information in a most explicit manner, first describing the acuity of the hill, which is nearly 100 fms. high, and in which three adit levels have been driven for a long distance on several lodes—I am not quite certain, but I think six in number. It is quite apparent that the rich Gawton lode runs through the centre of this mine in the same direction as some of the adits are driven, and I think it would be quite satisfactory to any of your former correspondents who have the slightest knowledge of mining to visit the spot also, and see the fine lumps of ore brought to the mouth of the workings, when they will be inclined to join with me in thinking that Bedford Consols is far beyond an ordinary speculation. What number of hands may of late have been employed in working the mine I am not aware, but I am quite certain that their prospects are good.

WILLIAM HULLAH.

St. Ann's Chapel, Sept. 8.

NEW WHEAL LOVELL—MINING ACCOUNTS.

SIR.—Being a shareholder in New Wheal Lovell, I can assure you I was no little surprised at the receipt of the last balance-sheet, made up upon Aug. 12, showing a debit of 3558s. 11s. 7d., including "relinquished and forfeited shares of 407s. 7s. 1d."—making a net balance of 194s. 6d. Now, Sir, upon Dec. 30, 1868, the balance-sheet shows a credit of 225s. 12s. 3d., and upon March 31, 1869, a credit of 194s. 17s. 1d. I purchased my shares in the beginning of Dec., 1868, and I subsequently got two balance-sheets, both of which shows a credit. Under such circumstances, I consider I am not at all bound in any way to aid in liquidating a debt previously contracted, and which was not then shown to be due; and an opinion that the only parties liable are the directors or committee, who by such statements induced parties to buy into the mine, whilst the actual state of the mine was as diametrically opposed to the statement of accounts as is day to night.

AN IRISH SHAREHOLDER.

[For remainder of Original Correspondence, see this day's Supplement.]

FOREIGN MINING AND METALLURGY.

The last advices received with respect to the Belgian coal trade indicate a slight upward movement. The Charleroi market has improved, the deliveries by railway having been tolerably well sustained in the Lower Sambre and Piéton basins. The deliveries by water have also increased in activity. Representatives of Belgian collieries are stated to have returned from journeys both in Belgium and in France, with considerable orders for coal. The departure is noted from Condé of about 60 boats, dispatched to Charleroi; a great number are also being loaded. An advance of 1d. per ton has been taken place in coal for glass works and rolling mills, and of 5d. per ton in coal for steam-engines. In the Liège basin local consumption is that which gives rise to the most transactions, the remark applying especially to coal for coke: an advance of 10d. per ton is noted in coke. The intelligence received from the basin of the Couchant de Mons is relatively good; orders have been received from the metallurgical interest, and prices are well maintained.

Certain complaints and "reclamations" of the metallurgical districts of Charleroi, Liège, and the Centre have obtained satisfaction, a common tariff having been agreed on between the Belgian State lines, the Great Luxembourg, the North Belgian, the Spa and Grand Ducal Frontier, the Guillaume-Luxembourg, and the Eastern of France Railways for the conveyance of the metallurgical products of the Charleroi and Liège basins to Bâle, in transit to France. The terms of the tariffs are stated to be advantageous; they are said to exceed, indeed, in this respect the anticipations and demands of the metallurgical interest. The tone of the Belgian iron trade continues good, many orders being received both for iron and castings; some important orders are also noted both for casting and refined pig. Some good transactions have taken place of late in plates, rails, and iron. The advices received concur in predicting an advance during the next few days, especially as regards casting and refining pig and plates. The Faluné Collieries Company is now paying a dividend for the first half of 1869.

The price of copper has been firmly maintained upon the French markets, under the influence of the advices received from New York. At Havre, Chilean and Peruvian, in bars, have easily obtained 70s. 8s. per ton, Paris conditions; refined ditto, in ingots, 76s. to 78s. per ton; pure Peruvian mineral, 72s. per ton; United States (Baltimore), 76s. to 78s. per ton; and United States (Lake Superior), 50s. to 60s. per ton. The article has been somewhat firmer at Paris: Chilean, in bars, to be delivered at Havre, has made 70s. 10s. per ton; ditto, in ingots, 72s. per ton; and Corocoro mineral (pure copper), 72s. per ton. At Marseilles quotations for copper have experienced little or no change. The German copper markets have been generally quiet. At Cologne the article has attracted rather more attention, and at Berlin the tendency of affairs has been also satisfactory; but Hamburg has not followed the impulse given elsewhere to affairs by the English market. At Amsterdam, Drontheim has made 47s. per cwt.; at Rotterdam, the corresponding quotation for Drontheim has been 50 to 52s. per cwt., and for Russian, 51s. per cwt. At Havre brilliant Banca tin has made 114s. to 117s.; and Straits, 130s. to 140s. At Marseilles prices remain without change. On the German markets no movement worth mentioning has occurred; at Berlin, however, there has been rather more firmness in tin, and at Hamburg there have been transactions of some little importance. The Dutch tin markets show little change. At Amsterdam affairs have been very quiet; some small transactions have, however, taken place at reduced rates—say, 75s. per cwt. The monthly statistics issued with regard to Banca and Billiton tin show rather small stocks and a limited quantity of Banca for the approaching sale; on the other hand, there is a very great quantity (about 50,000 ingots) now under sail, so that the sale in the spring will be for about 70,000 or 80,000 ingots. Holders are doing their utmost to sustain prices with firmness. Banca has been offered at Amsterdam at 79 to 79s. per cwt. Soft Spanish lead, first fusion, has been quoted at Havre at 19s. per ton; ditto from other sources, 19s. 4s. per ton. Quotations for lead at Marseilles have displayed a slight improvement. At Hamburg transactions in lead have not been very numerous; at the same time, prices have been maintained without difficulty. At Paris the tone of the zinc market has been rather feeble. The Cologne and Berlin zinc markets have been also very quiet. At Breslau holders of tin appear disposed to make some concessions.

A rather important movement of affairs is reported at St. Dizier; prices display great firmness, and a certain advance has taken place in many articles. Charcoal-made pig, which has been neglected for a lengthened period, has revived in consequence of contracts concluded, or in course of conclusion; prices have confirmed the advance which had been anticipated. The coke-made pig of the Meurthe and the Moselle has given also some to some good orders; 2s. 12s. 10d. to 2s. 14s. 8d. has been paid for white pig, and 2s. 12s. 6d. to 2s. 16s. per ton for grey speckled pig at the producing works. Orders for iron—the production of which has been somewhat reduced in the Haute-Marne by the drought, which has prevailed—have been abundant during the last few days. Rolled iron, from coke-made pig, has realised 8s. to 10s. per ton; mixed ditto, 8s. 12s. to 8s. 16s. per ton; charcoal-made ditto, 9s. to 9s. 4s. per ton; hammered iron, 9s. 12s. to 10s. per ton, first-class. No. 20 puddled machine coke-made, has realised 8s. 12s. per ton; mixed ditto of good quality, 9s. 8s. to 9s. 12s. per ton; charcoal-made ditto, 10s. to 10s. 8s. per ton. An advance of 4s. to 8s. has taken place in iron wire. The improvement which has taken place of late in quotations is thus maintained, but the fact must not be concealed that the improvement is due in great part to the bad state of the water-courses. Quotations for iron in the department of the Nord have ex-

perienced no variation. The St. Marcel Works have begun to deliver fine iron. The St. Amand forges, which had been worked by MM. Merhan and Co., have been purchased by M. Sirot-Wagret, forgemaster at Trith-St-Leger. MM. Rigolot, of Paris, have obtained a contract for the construction of great markets at Naples, after the fashion of the Paris halles; an establishment in the East of France will furnish the ironwork required, which will amount to about 1500 tons. The contract for the castings required has not yet been let; it will comprise 2500 tons of columns. The annual meeting of the important mechanical undertaking known as J. F. Cail and Co. will take place at Paris on Thursday, Sept. 30. The Rive-de-Gier Collieries and Railway Company is not in a position to distribute any dividend upon its shares for the first half of 1869, the profit realised during that period being only 578s. This result is due to a strike of miners.

A considerable amount of activity continues to be displayed in connection with the construction of additional sections of railway in France. There is especially great energy observable in the prosecution of cheap local lines. At the close of June, 1869, the extent of railway actually in operation in France was as follows:—Old network, 5842½ miles; new network, 4151½ miles; miscellaneous, 295½ miles; total, 10,289½ miles. At the close of June, 1868, the corresponding total was 9881½ miles. It follows that the extent of new railway opened in France from July 1, 1868, to June 30, 1869, was 407½ miles.

BRAGANZA GOLD MINING COMPANY.—Capt. John Roberts, who has been appointed by this company to proceed to Brazil, under Mr. W. H. Richards as superintendent, to work the Braganza Gold Mines, which adjoin the once celebrated mines of Cata Branca, sailed from Southampton with the rest of the company's mining staff on Thursday. As Capt. Roberts has had 20 years' experience as a miner and agent in gold mines, and knows the Brazilian gold mines exceedingly well, it is considered that his appointment will be as advantageous to the company as to himself.

The Bank of England return for the week ending on Wednesday evening showed in the ISSUE DEPARTMENT a decrease in the "notes issued" of 391,450s., which is represented by a corresponding decrease in the "coin and bullion" on the other side of the account. In the BANKING DEPARTMENT there was shown an increase in the "public deposits" of 660,148s.; in the "seven day and other bills" of 14,109s.; and in the "rest" of 2670s.: together, 676,927s., and a decrease in the "other deposits" of 859,736s.=182,809s.; and, deducting therefrom 21,818s., the decrease in the "other securities," there remains a total decrease in the reserve of 169,991s.

The Royal Forest of Dean Mining Company (Limited) official liquidators will meet on Monday to make a proposed call of 5s. per share on contributors of the undertaking.

## THE Tram-Railway Company of Great Britain (LIMITED).

PATENTEES—Locomotive, THOMAS PAGE, C.E.; Rails, JOHN HAWORTH.

CAPITAL £500,000, IN SHARES OF £10 EACH. FIRST ISSUE, 10,000 SHARES

(With power to increase).

Deposit on application, £1 per share; £3 on allotment. Calls not to exceed £2 per share, at intervals of not less than three months.

CHAIRMAN.

Sir GEORGE BOWYER, Bart., D.C.L., Radley-park, Berks, and 13, King's Bench Walk, Temple, E.C.

DIRECTORS.

Sir LAWRENCE PALK, Bart., M.P., Haldon House, Exeter, and 1, Grosvenor-gardens, W.

GEORGE H. WHALLEY, Esq., M.P., Plas Madoc, Ruabon, North Wales, and Reform Club, S.W.

Major S. YORKE MARTIN, Thornville, Ryde, Isle of Wight.

GEORGE DAWES, Esq. (Messrs. W. H. and G. Dawes, Ironmasters, Milton and Elsecar Iron Works, near Barnsley; the Denby Iron Company, and Trent Iron Company), 9b, New Broad-street, E.C.

FRANCIS LOGAN, Esq., Cliffe Side, Bournemouth, and the Athenaeum Club, London, S.W.

WILLIAM SLATER, Esq. (Messrs. William Slater and Co., the Exchange Bank, Carlisle.)

JOHN T. SPRAGUE, Esq., Old Park and Malin's Lee Iron Works, Shifnal, Shropshire.

PHILIP THOMAS BLYTH, Esq. (Messrs. Blyth and Co., East India Merchants), 17, Gracechurch-street, E.C.

With power to add to their number.

ENGINEER-IN-CHIEF—THOMAS PAGE, Esq., M.Inst.C.E., F.G.S., F.R.G.S., &c.

MANAGER—THOMAS MYERS, Esq., C.E.

BANKERS.

THE LONDON AND WESTMINSTER BANK, Lothbury; Messrs. WILLIS, PERCIVAL, and Co., 76, Lombard-street.

BROKERS.

London—Messrs. CROSLY BROTHERS and Co., 3, Royal Exchange-buildings, City, E.C.; Messrs. FIELD, WOOD, and HAYNES, Manchester—Messrs. KENNEDY and COATES, 6, Norfolk-street.

[9, Warnford-court, E.C.]

Edinburgh—WILLIAM BELL, Esq., 8, North St. David-street.

Glasgow—RUTHVEN C. TODD, Esq., 36, St. Vincent-place.

Leeds—R. J. GREENLAND, Esq., 62, Albion-street.

SOLICITORS.

Messrs. WILKINS, BLYTH, and MARSLAND, 10, St. Swithin's-lane, City, E.C. WILLIAM TOOGOOD, Esq., 16, Parliament-street, S.W.

AUDITORS.

Messrs. JOHNSTONE, COOPER, WINTLE, and EVANS, FAITHFUL COOKSON, Esq., 9D, New Broad-street, E.C.

SECRETARY (pro tem.)—W. H. HEPBURN, Esq.

OFFICES,—NO. 9D, NEW BROAD STREET, CITY, E.C.

PROSPECTUS.

The directors are assured by the first railway authorities in the kingdom that tramways are the necessity of the day, and it is proposed that this company's system shall supply the requisite links to complete the chain of communication throughout the land.

The company will construct its own lines, work them, and draw annual profits therefrom, or sell or lease them when made either to railway or other companies or firms, the rent thus derived forming a revenue without risk or trouble. They will also grant licences for the construction and use of lines under their several patents, and this also will be a large source of safe income.

From calculations carefully made, confidence is felt that a dividend of 12 per cent., to 15 per cent. may be expected on the first issue of shares, and a higher dividend in succeeding issues, when the traffic is more fully developed. The directors are to decide when a sufficient number of shares of the first series are applied for to warrant them in making an allotment.

Complete prospectuses may be had at the company's offices.

The formation of several important lines has already been proposed to the board.

A copy of the Memorandum and Articles of Association, and of the contracts entered into, can be seen at the offices of the solicitors.

Applications for shares will be received by the company's bankers and brokers, and by the Secretary, 9D, New Broad-street, City, E.C.

The Virtuous Lady Mine is situated about 3 miles south-west of the town of Tavistock.

The sett, which is very extensive, and comprises the most highly mineralised ground in the two counties of Devon and Cornwall, is held upon lease for 21 years, from Sir Masseys Lopes, Baronet, dated July 1869, upon a royalty or dues of 1s-18s.

Almost unlimited water-power is available, as the rivers Walkham and Tavy pass through the sett.

Historical records set forth that this mine was worked by the ancients for silver, and that the caverns which were formed by mining industry were in later years inhabited by banditti. It is generally known that well advanced in the present century the mine has returned tens of thousands of tons of rich copper ore. It is, however, quite apparent that in the past the intrinsic value of the property was unknown, and, therefore, never duly appreciated, or it would have been more developed, and the treasures already discovered not left for the present proprietors. It was for years recognised as the mine of mines from its immense returns of rich copper ore, nevertheless the deepest workings are only about 17 fathoms from surface, which will readily show that really practically the mine has hardly been explored at all. The courses of ore so far worked upon are not what are called regularly defined; they are what are termed "flats"; they have, however, perfect walls, and when descending into the earth have a beautiful underlie; but suddenly the descent ceases, and the courses of ore run away in a "flat" direction for some considerable distance, when they again take a descent, with a fair underlie. It is from these "flats" that tens of thousands of tons of copper have been extracted, and the horizontal courses alone will unquestionably yield great quantities of ore, as they, comparatively speaking, have thus far been but slightly worked; the "flats" are, however, merely out-throws, yes, thumbnails only of and from the gigantic quartz lodes which are 100 to 200 feet wide.

## Meetings of Public Companies.

## MOSQUITO LAND SECURITIES.

A general meeting of holders of Mosquito Land Claims, which have been adjudicated upon by Capt. BEDFORD PIM, R.N., was held at Westminster-chambers, on Sept. 2.—Mr. FIELD in the chair.

The SECRETARY having read the notice convening the meeting, the subjoined report was submitted:—

At the public meeting, held on Aug. 10 last, it was stated by the Chairman, and confirmed by Don Carlos Gutierrez, the Minister Plenipotentiary of Honduras (who was present at the meeting), that the Honduras Government, Messrs. Bischoffsheim and Co., as representing the holders of Honduras bonds, and, in fact, all parties concerned, were desirous to co-operate in giving such a title to the lands granted by the Government as should enable the proposed company to go forward. It was then expected that a few weeks would have sufficed for the accomplishment of this object. No progress, however, was made, and on November 5 the Central American Association addressed a letter to the committee enquiring when the question as to the title to the 4,000,000 acres, granted by Don Carlos Gutierrez in the name of the Honduras Government, would be satisfactorily arranged. The committee, in reply, requested the Central American Association to state specifically what title would be deemed satisfactory by them, and suggested that the solicitor of the association should be at once instructed upon that point, and put in communication with Messrs. Baxter, Rose, and Norton, and Messrs. Cotterell. The committee also addressed the Honduras Minister, who replied that "as all the parties interested in the affair are sincerely desirous to have the difficulties immediately removed, he saw no reason why the solicitors should not find a prompt and satisfactory solution to the question." On Dec. 7 the Central American Association informed the committee that their solicitor, Mr. Bompas, was prepared to put himself in communication with the two firms above named. Several conferences between Mr. Bompas and those gentlemen followed, but without any definite result, although always ending in the expectation of speedily arriving at one. On March 22, for instance, he addressed to the Chairman the following letter:—

**MOSQUITO LAND WARRANTS.**  
4, Great Winchester-street-buildings, London, March 22.—Sir: Our meeting last week did not arrive at any definite results, as Messrs. Baxter and Co. had to obtain further instructions from Messrs. Bischoffsheim, which they expected to do in the course of a fortnight, after which I shall again have a communication from them.

GEORGE COX BOMPAS.

A committee accordingly was summoned for April 14 to receive his report, but Mr. Bompas not being prepared with any, the meeting was adjourned from time to time, till on June 7 the committee thought it necessary to inform Mr. Bompas that the public meeting could no longer be delayed, and must be held, whether any definite conclusion was to come to or not. On the assurance that a further short delay would suffice, it was determined not to hold the meeting till towards the end of July. At the request of the Honduras Minister, however, a further delay was afterwards conceded, and the committee had every reason to expect that they would in consequence be enabled to report that the difficulty had been removed. The period of this delay having, however, expired without anything being done, the committee felt that they could no longer, in justice to themselves, abstain from putting the holders of land claims in possession of the facts of the case. They must, however, leave it to the solicitors to explain how it is that they have been unable to settle a question which appears to the committee to offer no difficulties which cannot be readily overcome by a cordial co-operation on the part of the bond holders with the Government and the Central American Association. The committee have not confined their attention to Honduras, but an opportunity having offered of bringing before the Government of Nicaragua the case of the Mosquito land claimants through the intervention of Dr. Berthold Seemann, who proceeded to that country on other business last September, that gentleman was duly authorised by the Chairman and Capt. Bedford Pim to negotiate with the Government of Nicaragua for the settlement of this claim. A full report of his proceedings on his return in May, which will be read to the meeting, has been furnished by Dr. B. Seemann, and that gentleman will give personally any further information with regard to his mission which may be desired. The committee appointed on March 12, 1868, consisted of—Messrs. John Field, D. Drakeford, F. Kelly, W. Pagden, G. Rahn, and C. Wing. Mr. Rahn from the first declined to act. Mr. Drakeford has ceased to attend since August, 1868. Mr. Wing has lately died. It is, therefore, necessary that fresh members should be added to the committee, and Messrs. William D. Christie, William Outhwaite, and J. Francis Edward Bingley having signified their readiness to act if elected, it will be for the meeting to consider the propriety of their election.

The CHAIRMAN, in answer to several questions, stated that affairs were practically in the same position as when they last met, owing, he could not help thinking, to the "masterly" inactivity of the lawyers. Don Carlos Gutierrez, the Honduras Minister, was at present in Paris, but would shortly return, and Dr. Seemann, whose report he read, was also away on the Continent. He (the Chairman), therefore, proposed that the meeting should stand adjourned until Oct. 6, by which time he hoped that they would be enabled to give more decided information with reference to the interests of the bondholders. It was expected that Mr. Bompas would have been able to attend, but at the last moment a letter had been received, addressed to Captain Bedford Pim, which he read, as follows:—

4, Great Winchester-street-buildings, London, Sept. 1.—Sir: I regret to say that, owing to the somewhat sudden death of a relation, I have to attend a funeral to-morrow morning, and fear I may not reach Westminster in time for the Mosquito committee. Should this be the case will you kindly explain to the members of the committee that I had several interviews with Mr. Cotterell, who represented the trustees of the Honduras loan, when he expressed himself very desirous to carry out the arrangements contemplated, though he considered there were legal difficulties in the way. These he promised should be removed if possible, as it was the interest of all parties, in his view, that the colonisation scheme should be carried out. He postponed from time to time his decision on the subject, on the ground of want of definite instructions, and it was ultimately clear that his clients desired to complete the second issue of the Honduras loan before entering upon any other negotiation; and as I have not been able to elicit any definite determination on the subject, I must conclude that those interested in the loan are unable or unwilling to modify their legal rights so as to allow of a grant of land being made to the holders of the Mosquito land warrants. I should have long since arrived at this conclusion and reported it to you but for the assurance I received from Mr. Cotterell that he considered the object very desirable for all parties, and one which he would assist if possible.

GEORGE COX BOMPAS.

Capt. Bedford Pim, R.N., 4, Westminster-chambers, S.W.

The CHAIRMAN then moved, and Mr. OUTHWAITE seconded, "That the report now read be received, adopted, and printed," which was carried unanimously.

The following gentlemen were elected to serve on the committee:—Mr. William D. Christie, proposed by Capt. BEDFORD PIM, R.N., and seconded by Mr. W. PAGDEN; Mr. William Outhwaite, proposed by Mr. W. PAGDEN, and seconded by Mr. C. FOX SMITH; and Mr. Francis E. Bingley, proposed by Mr. FIELD, and seconded by Sir CHARLES FOX; and it was further moved, seconded, and carried unanimously that the committee have power to add to their number.

The proceedings terminated with a vote of thanks to the Chairman and Capt. Bedford Pim.

## FOREIGN MINES.

**IMPERIAL SILVER QUARRIES.**—Aug. 10: Owing to an accident to the ventilating apparatus (which was, however, again in working order on Monday evening), only 9 ft. of tunnel were made last week. I had Mr. Gamble, of the Morning Star (long in the Gould and Curry Mine, on the Comstock lode), over your ground the other day. He expressed himself much pleased with the external indications, especially with those presented by the Triumph No. 3, and Nos. 7, 9, and 10. Detaching (in the 10 ft. shaft, on the original Triumph ground, towards Monitor Creek) a portion of the well-defined casing between the hanging wall and the ledge, he declared the ledge pitching distinctly east, and striking upwards towards the back, or east side, of the felspathic cropping F.F., notwithstanding the run of the ledge above ground shows nearly north and south. He further stated that the quartz there was very promising, and the definition of the ledge on that side, as far as the shaft descended, all that the most fastidio us miner could desire.

—Aug. 16: There were 11 ft. of tunnel made last week, now in 1065 ft.

**LAGUNA.**—J. R. Rule, July 27: The Purisima adit has been extended 10 varas on a vein with much pyrites and a little ore. In this adit are seen two small veins of a promising description, which have also ore, and, by their direction, would seem to unite and cross the vein on which the adit is driving a few varas east of the present end; the direction of these veins is south-east.

Aug. 9.—The workmen who were employed in the cross-cut north in the 95 varas level having asked permission to work in the pitch below the 50 varas level, on the condition of paying half cost and having one-half of the ore, I have permitted them to do so, and they have already broken a considerable quantity of stuff, which may contain 20 cargas of dressed ore. The ore now being followed up by these men is found in a crevice, which appears to traverse the Arevalo vein in a north-westerly direction, and, though irregular, may turn out a good many cargas of ore of a pretty good ley. As soon as there may be about 60 cargas of dressed ore I think of having it reduced in the patto.

**RHENISH CONSOLS.**—G. Sweet, Wiehl, Sept. 2: Christiansa: The engine-shaft is now 10' 1 lachters, or about 11 fms, 3 ft. below the 20; we shall now commence cutting plat and cross-cutting the lode in the bottom. The end driving east in the 20 lachters level is still poor. We have removed the men from this point, and put them to drive west on the footwall of the lode. The stope east of Pittar's winze, and in the roof of the 20 lachters level, will afford 1 1/4 ton of lead ore per lachter. A stope west of this winze, and in the bottom of the 10, will afford 1 ton of lead ore per lachter. A stope in the roof of the 20 lachters level, and 12 lachters west of cross-cut, will afford 2 1/2 tons of lead ore per lachter. A stope in the roof of the 10 lachters level, and 10 lachters west of Sweet's winze, will afford 1 1/4 ton of lead ore per lachter. The cross-cut driving south near the western end, in the adit level, is 2 1/2 lachters through the ledgestuff, and as yet not reached the footwall; good spots of lead ore in the end.—Bielebach: The end driving west on the north lode, in the 10 lachters level, has made no improvement since my last report. The lode in the sink in the bottom of the 10 lachters level, on the middle lode, will afford 1 1/4 ton of lead ore per lachter. A stope in the roof of this level, on the middle lode, will afford 1 1/2 ton of lead ore per lachter. A stope in the bottom of the adit level, on the north lode, and 20 lachters west of air-shaft, will afford 16 cwt.s. of lead ore per lachter. In the cross-cut driving north, east of the copper lode, in the adit level, we have intersected a large kluft, but what it will lead to we cannot yet determine. Estimated returns for August month: Lead ore, 520 centners, 1450 this.; blende, 70 centners, 50 this. —1500 this.—Total cost of mines, exclusive of block, 1700 this.; showing a deficit of 200 this. Sinking Astley's shaft, 200 this.—Madonna: The new shaft has been sunk during the last month about 4 lachters; total depth below the surface, 9 lachters. The small lead vein mentioned in my last monthly report is still in the shaft, and is more regular than when near the surface, and affording good

stones of lead ore. An engine is being erected for the purpose of sinking below the adit level.

**ALAMILLOS.**—Sept. 1: The 4th level, driving west from San Rafael shaft, yields 1 1/4 ton of ore per fathom; this level has opened up very well in the past month, and is looking well at present. The 4th level, east of La Magdalena shaft, produces 3/4 ton per fathom; the lode is rather small, and the ground is getting harder for driving. The lode in the 5th level, east of La Magdalena shaft, is looking more promising than it has been for some time. The 5th level, west of the above shaft, is worth 1 1/2 ton of ore per fathom; this is passing through very good tributary ground. The men are getting on very well in the 6th level, east of Taylor's engine-shaft, and the lode is now producing stones of good ore. The lode in the 6th level, west of Taylor's engine-shaft, is large, but does not contain sufficient lead to value. In the 5th level, west of Taylor's shaft, it is quite unproductive. The ground in the 4th level, west of San Adriano shaft, is getting much harder for driving; the lode is small. The lode in the 3d level, west of San Yago shaft, is wide and open, but of no value. The 2d level, east of Cox's shaft, is worth 1 ton of ore per fathom; this driving is opening very good tributary ground. The lode in the 3d level, east of Cox's shaft, is small, and disarranged. The 3d level, west of Crosby's shaft, yields 3/4 ton of ore per fm. In this level the lode is improving, and we expect a great length of good ground.

**LINARES.**—Sept. 1: West of Engine-Shaft: The 82, driving west of Warne's, yields 1 1/2 ton per fm. The lode has been of great value in the past fortnight, but is now smaller than it was. The 65, east of San Francisco shaft, produces 1/2 ton per fathom; this has been recently started from the bottom of No. 167 winze, and is expected to improve. The lode in the 55, west of San Francisco shaft, is of a very promising appearance, yielding 2 tons of ore per fathom. In the 45, east of the above shaft, the lode is small, and the ground hard for driving. The lode in the 31, east of San Francisco shaft, is very changeable, and is not so good as it was. It is now worth 1 ton of ore per fathom. The lode in the 25, east of San Francisco shaft, is small, and the ground much disarranged. Shafts and Winzes: In San Francisco shaft, sinking below the 45, the men are getting on moderately well; the ground is hard. In No. 168 winze, below the 75, the lode has become quite unproductive. The stope has yielded the usual quantity of mineral in the past month, and are looking much as usual at present, enabling us to estimate the raisings for September at 250 tons. The machinery and all other surface work are going on regularly.

**FORTUNA.**—August 31: Canada Incosa Mine: The 110, west of O'Shea's shaft, yields 3/4 tons of ore per fathom; the lode is small and compact, and the ground is hard for driving. The 100, west of Henry's shaft, is worth 1 ton per fathom; a change has taken place in this end, and we expect still further improvement. The lode in the 90, west of Judd's, is regular and compact, yielding 3/4 ton of ore per fathom. We have resumed the driving of the 80, west of Judd's, which yields 1/2 ton of ore per fathom, the lode being kindly, and the ground easy for driving. The lode in the 90, east of Addis's shaft, produces a little lead, but not enough to value. In the 80, south of Henry's shaft, the ground is still easy for driving, and good measurement is being made. The lode in the 50, east of San Pedro shaft, is regular, composed of quartz and lead ore, producing of the latter 1 ton per fathom. The 80, west of Lowndes', is in a cross-channel of ground, which has destroyed the lode. The 80 fm. level, east of Lowndes', yields 3/4 ton of ore per fathom. An improvement has taken place both in the ground and lode, and we now expect to open up some good ore ground. The 70, east of Carro's shaft, is worth 1 ton of ore per fathom. Shafts and Winzes: In O'Shea's shaft, sinking below the 110, the ground is very hard and slow for sinking through. Ale's winze yields 3/4 ton of ore per fathom; the lode is looking better as we get down. Carlo's winze, below the 100, produces 2 tons of ore per fathom; this winze is going down in a good lode.—Los Salidos Mine: The 100, driving east of Buenos Amigos shaft, is worth 1 1/2 ton of ore per fathom; this is holed to the end driven west from Colon's winze, and is now being driven east of winze to communicate with the level west of Morris's engine-shaft. The 90, west of same shaft, yields 1 ton per fathom; the lode here is again improving, both in size and quality. The 75, west of San Carlos shaft, is worth 1 1/2 ton of ore per fathom; this has reached the point of the lode west of cross-course, and is looking kindly. The 100, east of San Gabriel shaft, yields 3/4 ton of ore per fathom; the lode is looking better than it has for some time past. The 90, east of Cox's shaft, is worth 2 1/2 tons per fathom, the lode being large and strong, composed of quartz, clay, and lead ore. The 75, east of San Pablo's shaft, produces 1 1/2 ton of ore per fathom; the lode is regular and compact, and the ground is hard for driving. Shafts: In San Miguel's shaft, below the 100, yields 1 ton per fathom; the ground is very hard, and the men are making slow progress in sinking. No change has taken place in Cox's shaft, below the 90. Morris's engine-shaft, below the 100, yields 1/2 ton of ore per fathom; the men are making necessary repairs for cistern, in order to fix a lift at the 100.

**CAPE COPPER.**—The directors have received despatches per Roman. Bills of lading are enclosed for 535 tons per Croydon, 33 tons per Arthur Pardew, 70 tons per Roman. Mining reports will come by next mail. The transport of ore to the coast was proceeding rapidly, as the verdure was in excellent condition, owing to the late rains. The Sunshine, with railway materials, has arrived at Port Noloth.

**THE MINING QUARTERLY.**—The August number of the useful little periodical bearing this title has just been issued, and is worthy of attention by all interested in mining enterprise. The articles entitled "Historical Sketch of the Origin and Progress of Mining," and "History of Mining in Britain," are really valuable contributions to mining literature. The article on the "Origin and Formation of Metals" likewise displays considerable research, and will prove generally interesting. The business portion of the Quarterly is well arranged, and conveys a large amount of information as concisely as possible.

**THE MINING ATLAS.**—The third part of Mr. Thomas Sparge's "Mining Atlas" has now been issued, and contains, amongst other things, information concerning the Frongoch, Cwmystwyth, Rhedol United, Gothic, Tywyn, Dolwen, the Cardigan Lead Mine, and various other lead mines in Wales. The part contains 32 pages of letter-press, and will be more fully referred to in next week's Journal.

**HOLLOWAY'S OINTMENT AND PILLS—COMFORT FOR ALL.**—The efficacy of external diseases is mournfully attested by thousands, whom riches cannot gladden, and by whom poverty with soundness would be hailed as an inestimable blessing. To all thus unfortunately afflicted it should be known that this cooling ointment will arrest any outward inflammation, stay the progress of corruption, and many terrifying wounds. After innumerable trials by thousands of sufferers, not one has ever yet complained of its having once failed. Holloway's ointment has conquered and cured inflammatory disorders, and saved the precious lives of multitudes. In diseases which have affected the frame for a long time, or contaminated the blood, Holloway's pills should always be taken.

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**HOLLOWAY'S OINTMENT AND PILLS—COMFORT FOR ALL.**—The efficacy



2 tons of ore per fathom. A rise in the back of this level will yield 2 tons of ore per fathom. No lode taken down in the same level, west of shaft, either in the end or stop for the week, but I see, from cutting into it, it shows ore. I am hoping to resume the sinking of the winze below the 78 to-morrow, and by what I can see from the flow of water from the 86 going towards it, it will soon be drained. After that part is drained to enable the men to sink the winze we will again push on the next year of the shaft.

NEW WHEAL LOVELL.—C. Rawden, J. Priske, Sept. 8: The lode in the 40, east of cross-course, is large, and producing 25t. worth of tin per fathom, and improving as we get off the influence of the cross-course. The lode in the stopes in the back of the 50 is worth 80t. per fathom. The 50 fm. level end is showing signs of improvement, the lode is becoming larger and letting out more water, which is considered a favourable omen. The 60 fm. level end is showing signs of improvement, the lode has been communicated to Lanyon's shaft; the men are now engaged cutting lode; the lode is full 12 feet wide, having a promising appearance. The lode in the winze sinking below the 60 is 5 feet wide, and worth 12t. per fathom. We shall now commence to sink Lanyon's shaft, below the 60 in a lode 12 feet wide, and as promising a lode as can be seen. No change in any other part of the mine. On the whole, the mine is considerably improved since the meeting.

NORTH DOWNS.—W. Pryor, J. Williams, Sept. 7: The 85 fm. level, west of King's engine-shaft, is still spare for driving; the lode is all the size of the end (3 ft.), and of late we have had branches dropping from the north wall, containing spots of copper ore. The 70 fm. level, west of sump-winze, has improved since last report, now worth 15t. per fathom. The western winzemans have been engaged during the past week in driving the end east of sump-winze; lode worth 15t. per fathom. Midway level, above the back of the 60, continues to open up some good tribute ground; lode in the present end worth 12t. per fathom. The stopes in the bottom of the 60, west of sump-winze, is worth 15t. per fathom. In the winze sinking below the 60, on the south lode, the lode is large, but coarse, worth 5t. per fathom. In the 60 fm. level, west of cross-cut, on the south lode, we have a beautiful channel of elvan, and the wall of the lode getting more perpendicular, which is a favourable indication.

NORTH JANE.—J. Rowe, Sept. 8: Leeds engine-shaft, is being sunk below the 36 fm. level, by six men, at 21t. per fathom; lode thin, and favourable to good sinking. The 36 is now to the cross-course; it is set to drive south in the cross-course to meet the lode seen at surface, and from the back of which some good munde was broken some nine months ago. The 30 to drive east by two men, at 55s. per fathom; worth 8t. per fathom for tin and munde. There is no other change to report on.

NORTH POOL.—J. Vivian and Sons, F. Clymo, Sept. 7: In the 30, east of the sump-winze, on middle lode, the south part of the lode is 1 ft. wide, yielding 1 ton of copper ore per fathom; the north part has not yet formed a junction with the south part. In the 24, east of Ballarat shaft, the lode is 1½ ft. wide, and yielding 2 tons of copper ore per fathom. We have commenced clearing the old works below the 24, on the old main lode, and find the lode 1½ ft. wide, one part of which is 6 in. wide, and producing good copper ore, mixed with quartz and munde. The prospects of the mine are encouraging.

NORTH RETTALLACK.—G. R. Odgers, J. Harris, Sept. 4: We have to-day set the 20 to drive north from No. 1 boundary shaft, to six men, at 11. 15s. per fm., the month extent; and some good lead, saving work, embedded in a good lead-producing killas.

NORTH RETTALLACK.—J. Harris, Sept. 9: The lode in the 20, north from the No. 1 boundary shaft, is 1 ft. wide, composed of friable quartz and munde, with some good lead ores, worth 3 cwt. per fathom.

NORTH TRESIDDER.—R. Pryor, Thos. Jenkins, Sept. 9: Tresidder's Shaft: The lode in the 130, driving east of the shaft, is still improving, and opening up tribute ground. The lode in the 120, driving east of ditto, is 4 feet wide, and worth 1 ton of copper ore per fathom. The lode in the 110, driving east, is 3 ft. wide, and worth 3 tons of copper ore per fathom, with a good appearance. The lode in the winze sinking below this level is 3 feet wide, and worth 3 tons of copper ore per fathom. All other places are without change to notice since our last report.

OKEL TOR.—J. Rodda, Sept. 9: The south lode in the 80 fm. level, east is composed of capel, spar, peach, and munde, with a little ore intermixed. Treloar's stope, in the back of this level, will yield from 3 to 4 tons of ore per fm. Tregoning's stope, in the back of the same level, will yield about 2 tons per fm. The lode in the 80 rise, west of the cross-cut, is producing from 1 to 2 tons of ore per fathom. The lode in the 65 fm. level, east of Helle's winze, is very large, consisting of capel, peach, munde, and saving work for copper ore; this is a very kindly end. The stopes in the back of this level, east of Gerry's cross-cut, are not looking so well; the eastern stope will now yield about 2 tons of ore per fathom, and the rise now being put up from Crossman's stope will now yield 1½ ton of ore per fathom. Wilk's stope, in the bottom of the level, will yield 4 tons of ore per fathom. The lode in the 50 east is looking kindly, and producing stones of ore occasionally. We have commenced to drive this level west of the cross-cut, from the engine-shaft, on the north part of the north lode, which consists principally of capel, arsenical munde, and ore, looking kindly; this level will take the western wall of the great cross-course in about 8 fathoms further driving, when we shall be in a position to say whether the lode is heaved or not. William's pitch, in the back of the 65, is very much improved. The other pitches are without alteration.

OLD GUNNISLAKE.—F. Phillips, Sept. 8: Parker's Shaft: The men have been somewhat hindered during the past week in having to repair the shaft upward, but are getting on with the plat, penthouse, and other necessary work as fast as possible, and shall again soon be able to resume sinking. In the deep adit level west there is no change to notice; the ground is still favourable for progress; about 1 fm. 3 ft. has been driven since my last. In the cross-cut the ground has not been so favourable for several days, but is better again, and will admit of fair progress being made.

PENDINAS.—T. Kemp (Bronfod Mine), Aug. 29: In describing the position of your property, it may not be out of place to observe that it is situated 2 miles south-east of Talybont Cardiganshire, and 4 miles from Llanrhianel station, and is bounded on the north by the Alltycrib and Esgairi'r mines, which in former times have yielded a large quantity of ore. In the immediate neighbourhood to the south are the mines East Darren, South Darren, Cwrt Efn, and Bronfod, and whose productiveness has been too well known to need comment from me. The eastern boundary of your sett adjoins the River Lerry with never-failing supply of water for all purposes, and thence further westwards embraces a mountain 90 fms. high, in which four or five lodes traverse the entire length of your sett, which is 1 mile in length and the same breadth. The formation in which these lodes are embedded is clay-slate, which is the true lead-bearing rock of this mining district. By shodding on the back of one of these lodes a good discovery was made, and to prove the certainty of this ore in making down in depth at about two-thirds the distance up the hill from the bed of the river, a level was driven west 30 fms., at which point it entered the bunch of ore seen at surface; and this level was extended in the run of this ore 15 fms., for which length the lode produced from 10 to 15 cwt. of ore per fathom. The lode as been poor for the last 5 fms. driving; but there appears to be a change in the end, as the joint on south wall is showing spots of lead and copper ore, and is letting out water freely. A few fathoms behind the present end there is a part of the lode left standing in the side of the level, which appears to be inclining to the north; in order to prove this the men are now employed in stripping down the same, from which they are breaking some nice stones of lead, and should this part of the lode keep the same direction as it is now going, it will altogether be to the north of the present end, and should this prove to be correct it will greatly enhance the value of the mine; however, this will soon prove. Further west another lode was discovered by means of shade pits, and some excellent stones of ore were broken out of them in two or three places. The bearing of this lode is about 25° south of east. It is very probable that these two lodes will form a junction 40 fathoms ahead of the present forebreast, and I consider this to be a very important point. To the north of these lodes there is another lode, showing good indications for the production of mineral. All these lodes can be worked from the eastern side of the hill by means of adit levels, and without the aid of pumping machinery for years to come. To develop this mine I would recommend the following work to be done—the present adit level be continued on to the junction of the lodes as above referred to, and that sufficient machinery be erected for making the ore marketable, and that a deep adit level be driven under the bunch of ore now discovered. This work can be carried out at a cost of about £1800/—; and when the deep adit is driven under the point just mentioned, you will have backs over 80 fms. high, and should the ore make down to this depth, which I have no reason to doubt, you will have a ground laid open to the value of upwards of £10,000/—, independent of any other improvement. I have no hesitation in saying I entertain a very favourable opinion of this mine; and if carried out in a judiciously energetic manner that it will not fail to result in a permanently payable one.

PENHALLES.—S. Bennetts, W. Higgins, Sept. 4: The only change to notice during the past week is a still further improvement in the 45 east, on the new lode, which is now worth 18t. per fathom; this looks well for that part of the mine. In clearing back west from Ennor's shaft, in the 10 fathom level, we have got back to the end of ground, and, consequently, there is no chance of unwatering the West Pink quickly from this point. We shall, however, endeavour to do so temporarily by a small lift. The 50 fathom level, west from the Glynn shaft, is extended to within 2 fm. of the Pink shaft; the lode here is apparently from 2 to 3 feet wide, but is all so covered with mud that as yet we cannot say much about its value. We are getting on very satisfactorily towards the next parcel of tin.

PENHALLES.—R. Pryor, H. Bennetts, J. Pryor, Sept. 8: Phillips's Engine-shaft: The men are making good progress in sinking this shaft below the 100 fm. level. In the 100, driving north of shaft, the lode is still worth 10 cwt. of lead per fathom. The lode in this level, driving south of ditto, is a little disordered by a branch which crossed the end, but from its present appearance we believe it will shortly improve. The lode in the 90, driving south of shaft, is improved, and now worth 3 cwt. of lead per fathom. Hall's shaftmen are busily engaged cutting plat, &c., in the 100 fm. level, and making the necessary preparations in order to sink the shaft below this level. The lode in the 90, driving north of shaft, is worth 6 cwt. of lead per fathom, but we believe this to be only temporary.

PENHALLES WHEAL VOR.—Wm. H. Martin, Sept. 8: In the engine-shaft, sinking below the 110, the men continue to make good speed. There is no change to remark in the 110 south cross-cuts. The lode in the 110 north cross-cut is 4 ft. wide, composed of munde, peach, quartz, capel, prian, and a little tin, letting out a quantity of water; this is decidedly a promising lode, the men are still engaged driving north. I hope by Monday next to be able to drive on the course of the lode, and from present indications I do not doubt but that we shall make good discoveries. In Ritchie's shaft, sinking below the 75, we have met with a

hard floor of ground, which has disordered the lode, and also being wet is slow for progress; this I do not expect to last many feet.

PRINCE OF WALES.—J. and W. Gifford, Sept. 9: In the 65 east the lode is 2½ feet wide, worth 6t. per fathom. We have just put the men to cut in north to see if any more lode is standing in that direction. In the 65 cross-cut south the ground is hard and spare for driving. In the 65 west the lode is 6 ft. wide, worth 15t. per fathom. Two stopes in the back of the 65 are worth on the average 15t. per fathom each. The 55 east is at present suspended. The stope in the back of the 55 east is worth 30t. per fathom. In the cross-cut south on 55 west there is no change. The 55 cross-cut north continues to yield good stones of copper ore. The stope in the back of the 55 west is worth 15t. per fathom. The stope in the back of the same level north is worth 8t. per fathom.

NO other change in the mine to report on.

PRINCESS OF WALES.—T. Foot, G. Rickard, Sept. 8: The ground in the 35 cross-cut, driving north from Harris's engine-shaft, is of a first-class description for the production of copper ore; we are frequently meeting with small branches containing gossan, munde, and copper ore crossing the end, with water oozing therefrom, which we regard as a favourable indication upon approaching the lode, and leads us to expect we are not far distant from it.

POWELL UNITED.—J. Trevethan, Sept. 9: The bargains throughout the mine are looking very well. The 62 west is the point of present interest; here the lode will yield 2½ tons of lead ore per fathom; the same level east is worth 2 tons per fathom. The 52 west is worth 2 tons per fm. The 52 east, is worth 1½ ton per fathom. The stopes in the back of the 52 west are worth 2 tons per fm. I have suspended the sinking of the winze under the 26 for a time, as we wanted the four men elsewhere; this 26 will be resumed shortly. We have set to six men to sink a winze under the 52, so as to be down to the 62 by the time the 62 works under it; this winze is 20 fms. west of engine-shaft; when communicated it will penetrate the bottom of the mine, and lay open a piece of ground for stopping which, by an impartial calculation, will yield 400 tons of ore, leaving a fair profit. Our surface operations are in a satisfactory state.

SNAEFELL.—Henry James, Sept. 6: The lode in the engine-shaft continues wide, and much the same in appearance and value as reported on last month.

The same may be said of the 75 north. The lode in the 60 north is large, producing good stones of steel ore and blonde, but not yet settled to a regular rib of ore.

From the dip of the ore ground seen above this level, we have still a little further to drive to reach the main object. In the 50, north of the 40, the lode is beginning to show a better appearance as we advance. In the end we have a small rib of steel ore forming on a good wall. This end is also behind the ore ground in the 40. In the 40 north the lode continues from 9 in. to 1 ft. wide, mixed with lead and blonde—good, regular rib of ore, and free of munde to a certain point, which is a good indication that the lode is becoming more valuable as we drive south, and get more into the mountain.

SOUTH CONDURROW.—J. Vivian and Son, H. Abraham, Sept. 8: In the 93 south on the cross-course, east of King's shaft, we are making good progress towards the tin lode, the price for driving being 21. 10s. per fathom. In the 82 fathom level cross-cut south, west of King's shaft, we are getting into harder rock, showing the proximity of the tin lode. In the 72 fathom level cross-cut, west of King's shaft, we continue driving on the south part of the lode, and are carrying a width of 6 feet, which, by the assay of the last parcel of tin sent to surface, is worth 28t. per fathom; driving by six men, at 14t. per fathom. In the 61, west of King's shaft, the lode has been small and unproductive, but is again improving. In the winze sinking under the last-named level the south part of the lode, of which we are carrying a width of 6 feet, is worth about 20t. per fathom. In the rise over the same level, further west, the lode is worth about 20t. per fathom. In the 51, west of Vivian's shaft, the lode is 2½ ft. wide, and unproductive. In the 51, east of Tye shaft, the lode is 2 ft. wide, and producing tin, worth about 7t. per fathom; price for driving 6t. per fathom. The work in connection with the steam-stamps and dressing-floors is in a forward state, and we calculate that we shall commence stamping in three weeks. Our stock of tin-stone on the floors is now very large.

SOUTH GREAT WORK.—S. J. Reed, Sept. 9: The cross-cut south towards Retallack's lode, at the 17, is being driven at the rate of 7 fms. a month; this end has produced large quantities of tin in the adjoining mines, and will be intersected parallel to where rich courses of tin were found on other lodes. We are driving east and west from Colenso-shaft on Perran Downs main lode, at the 15, where the lode is fully 8 feet wide, of a very promising character. I break out of the east end yesterday five rock from the lode, containing rich leaders of tin. The shaftmen are engaged cutting the necessary ground for plat, &c., preparatory to sinking below the 15 fm. level. At this point the lode is 8 ft. wide, containing good stones of tin. I have seldom seen such fine indications so shallow, and, judging from appearances, I shall not be surprised to see a rich lode opened out in the course of the next 10 fms. sinking.

SOUTH HERDOSFOOT.—W. Goldsworthy, Sept. 9: During the past week we have passed through a small branch of hookan and spar, with occasional stones of lead. The ground in the cross-cut is without change to notice, being a beautiful looking killas.

SOUTH MERLYN.—H. R. Harvey, Sept. 9: The 40 north is looking very well; the lode is improving, and opening out very satisfactorily. We feel confident of success here; the shaft is down about 8 fathoms, sinking in rather hard ground. Everything proceeding well.

SOUTH WHEAL GREENVILLE.—G. R. Odgers, Wm. Bennetts, Sept. 4: The lode in the 42, both east and west from the cross-cut, is 15 in. wide, of quartz, &c., with a little munde and black ore, but we do not see any alteration in the ground from our last advice.

ST. JUST AMALGAMATED.—Richard Pryor, Thos. Gundry, Nicholas Bartle, Sept. 6: We set the following bargains on Saturday last:—Saveall's Lode: The 100 to drive west of engine-shaft, by two men, at 7t. per fm.; the lode is 2½ ft. wide, producing a little tin, but not enough to value. We have suspended the 90 fathom level end, west of shaft, for the present, the men being engaged in putting up a rise in the back of this level, in order to communicate with the winze sinking below the 75; the lode is worth 6t. per fathom; rising by two men, at 21. 15s. per fm. The 75 to drive west of shaft, by two men, at 4t. per fm.; the lode is 3 feet wide, producing saving work for tin. The winze to sink below this level, west of shaft, by six men, at 3t. per fathom; the lode here is worth 20t. per fathom, and when communicated to the level below will open up a valuable piece of ground. To stop the back of this level, west of shaft, by three men, at 11. 15s. per fm.; the lode is worth 3t. per fathom. The 62 to drive west of cross-cut, by two men, at 7t. per fathom; the lode is producing good stones of tin, but is promising for an improvement. This level to drive east of cross-cut, by two men, at 2t. per fathom; the lode is worth 3t. per fathom. The 50 to drive west of cross-cut, on Wheal Boydens lode, by two men, at 4t. per fathom; the lode is producing good stones of tin.—Owl Lode: The rise in the 94, driving east of shaft, the lode is worth for the 102, per fathom. In the 82, driving west of shaft, the lode is 4½ ft. wide, and worth for the 20t. per fathom. In the 82, driving east of the shaft, the lode is worth for tin 3t. per fathom. We have communicated the winze in the bottom of the 82 with the 94, which gives good ventilation to both levels. We have commenced driving a level north, in the 94, to intersect the caunter lode.—Caunter Lode: In the 82, north of shaft, we have not yet cut the lode to the east of the cross-course.

WHEAL KITTY (St. Agnes).—S. Davy, W. Polkinghorne, Sept. 4: In the 82, driving west of Illogate's shaft, no lode has been taken up during the week.

—New Shaft.—Pryor's Lode: In the 106 fm. level cross-cut, driving south of the shaft, the ground is much the same as for some weeks past.

In the 94, driving west of shaft, the lode is still large, and worth for the full 25t. per fathom. In the 94, driving east of shaft, the lode is worth for the 102, per fathom. In the 82, driving west of shaft, the lode is 4½ ft. wide, and worth for the 20t. per fathom. In the 82, driving east of the shaft, the lode is worth for tin 3t. per fathom. We have communicated the winze in the bottom of the 82 with the 94, which gives good ventilation to both levels. We have commenced driving a level north, in the 94, to intersect the caunter lode.—Caunter Lode: In the 82, north of shaft, we have not yet cut the lode to the east of the cross-course.

WHEAL SPARNO.—W. Tregay, Sept. 4: The lode in the 30, west of cross-course, produces good stones of copper ore, and promises improvement; ground favourable for driving.

WHEAL MARY HUTCHINGS.—W. Edwards, Sept. 6: The lode in the 22 fm. level going east has improved both in size and quality, being now 3 feet wide, and worth 8t. per fathom. We have an improvement in Arnold's shaft, sinking below the deep adit level; the lode is 2½ ft. wide, worth 10t. per fathom. I regard this as a most important feature, being 100 fms. east of the engine-shaft. Other points remain just the same as last reported on.

took away a great deal of this lode from the shallow adit to the surface, the parts that are remaining showing it was rich in tin. We find also the lode very good in a place or two going below the shallow adit, and have, therefore, commenced sinking on it. We have also begun clearing a shaft to the deep adit level, for the purpose of driving the said level under the tin ground referred to. We think that we shall then make good discoveries, and find this lode the most valuable one we have yet worked. We purpose naming it Bury's adit.

WEST GREAT WORK.—S. J. Reed, Sept. 9: The flat-rod shaft, sinking below the 50, on the great north lode, has improved to 13t. per fathom for tin, and the ground is more congenial for mineral, and better for sinking. Tin-stuff of an average quality is being broken in the 50 east. In order to produce better ventilation, this is being put up from the 40 to the 30; this I expect will be communicated in the course of a month.

WEST PRINCE OF WALES.—W. C. Cock, Sept. 7: The lode in the 30, west from Harvey's shaft, is worth 13t. per fathom. In the rise above this level the lode is worth 7t. per fathom, and the stope 4t. per fm. The lode in the 29 yields tin-stuff for the stamping. Three stopes in the face are worth on an average 6t. per fathom.

The adit driving east of Barnshaft is opening tribute ground. In the western flat

taken place during the past two or three years, and, in fact, only very recently. At the best they are risky, and upon current prices of the respective shares only return a very small percentage. I could name 10 mines equally safe, that would return 12% to 15 per cent., in all probability, for many years to come.

**MINING IN AUSTRALIA.**—The advices received from the different mines appear in the usual place. Attention may be directed to the fact that the Australian United Gold Company has received information to the effect that operations have so far advanced as to enable the manager to commence crushing operations. Eighty tons of good stuff have been crushed, the result of which is 85 ozs. of amalgam, containing about 55 ozs. of gold; the subsequent yield from the tailings was over 2 ozs. per ton. The quantity of mineral and base metal in the stone is stated to be something wonderful. The falling off in the Port Phillip yield arises from a temporary cause. Mr. Bland advises that it is owing to the necessary suspension of some of the more productive stops during the operations for the opening up of the mine in depth, with the view of equalising the yield. Other stops have been commenced, which are likely to return a more satisfactory average.—The directors of the Yudanamutana Copper Mining Company of South Australia have received a remittance from the mines of 4500L. The Worthing information is to the effect that in driving a cross-cut at the 93 ft. a lode 7 ft. wide has been met with, upon which a drivage has been extended for 6 fathoms, which will average from 4 to 5 tons of good ore per fathom.

**MINING IN BRAZIL.**—In addition to the satisfactory information received a few days since by the directors of the Taquaril Company, it may be mentioned that gold has been already obtained from the new workings, irrespective of the lode itself. The importance of this is in the fact that the ground through which the explorations are being extended towards the lode contains auriferous mineral in appreciable quantities, a fact fortifying the favourable opinion of those authorities who reported upon the mine before it became the property of the present company.

**PROSPER UNITED.**—We have reason to know that, if a new company should be formed to carry on this mine, the lords of the soil will be prepared to deal very liberally.

**VAN.**—Some important improvements have taken place during the week. In the 15 fm. level, west of engine-shaft, the lode is worth fully 4 tons of ore per cubic fathom; and in the shaft, which is being put down at a distance of no less than 190 fms. west of the present workings, several large "shades" of lead have been met with at a depth of less than 3 fms. from surface. These "shades" are regarded by the manager as the sure indication, not only of a new but also of a rich mine in depth. About the same distance east of the present workings ground richer than anything yet seen in any part of the property is expected to be opened up.

**POLBRENN (St. Agnes) is again at work.** A difficulty with regard to the engine standing on the property, which was the cause of some delay, has been removed, and many of the former workers have made application to get on as tributaries, in which capacity, it appears, they did very well on the sett in past days. Cornwall is to be congratulated at another of its fine old mines being again at work, and the wonder is that a mine producing the quality of ore for which Polbreen was always famous should ever have been left idle.

**FEARFUL COLLIER ACCIDENT IN AMERICA.**—The Avondale district has been visited by one of those deplorable calamities which seem to be inseparable from coal mining, in whatever country, or upon whatever system, it may be carried on. On Monday the entire neighbourhood of Plymouth, Pennsylvania, was thrown into grief and consternation by the occurrence of a fire in the shaft of one of the largest collieries there. The pit had been idle for some time, owing to a strike of the colliers, but work was resumed on Monday, when a shaft, upwards of 300 feet deep, was rendered useless by the timbers having caught fire near the ventilating furnace at the bottom. The conflagration spread so rapidly that in a very few minutes the entire shaft and the buildings above were in flames. The fire continued to rage for some hours—indeed, until the falling debris had choked the shaft to such an extent as to assist in smothering it out. Two men, who bravely volunteered to descend on Monday evening, were suffocated, and, notwithstanding the strenuous efforts made during the whole of Tuesday and Wednesday, both by the application of a powerful steam-fan to force air down the shaft, and by unceasing and energetic endeavours to effect a communication with the workings through the adjoining colliery, the sufferers were not reached. On Thursday the inner chamber was, however, reached, but only to find that every collier in the workings had perished. The latest telegrams received state that the bodies were brought to surface, when it was found they numbered 202. Several persons were overcome by the carbonic acid gas during the explorations, but all of them were resuscitated. The scene was most painful at the colliery, where the weeping relatives of the dead had assembled. All work is stopped in that part of the coal region in which the mine lies. The dead were placed in one chamber. The bodies were not burnt, and were easily recognisable. All had evidently died from suffocation. The accident could scarcely have occurred at a more unfortunate time for the survivors, since they are, of course, impoverished by the strike, and, therefore, not at all prepared for additional expenses, but it is to be hoped that in any appeal that may be made to the public for affording them assistance the English will unite with the Americans to afford them all the consolation which relief from pecuniary difficulties can afford them.

**THE COAL TRADE IN INDIA.**—In the Supplement to this week's Journal we publish the Coal Statistics of India, made up to the end of 1868, for which we are indebted to Dr. Thomas Oldham, the Director of the Government Geological Survey of India, and explorations are now being prosecuted in Chanda, under his instructions, by Mr. Mark Fryar; and in the latter part of July, in one of the boreholes at Googhoos, about 12 miles from Chanda, an aggregate thickness of 45 feet of coal was passed through, upwards of 30 ft. being in one continuous bed. Details in addition to those given last week will be published shortly.

#### FRANCIS BERRY AND SONS,

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#### TO COLLIER PROPRIETORS.

**UPWARDS** of 3000 LARCH POLES, 1000 OAK POLES, 500 OAKS and OAK PLANKS upwards of 20 feet long, in stock. ELM COAL-PIT RINGS and CHOCKS, ready cut, in stock. 1000 dozen CLOG BLOCKS, mostly men's. All kinds of ENGLISH TIMBER supplied in the round, and OAK and LARCH SCANTLING cut to sizes for railway and wagon building. Dealer in all kinds of BRITISH TIMBER, MILLWRIGHTS, ENGINEERS, COACH BUILDERS, WHEELWRIGHTS, &c., supplied on the most reasonable terms. **JAMES ATKINSON,** No. 63, GRANBY ROW, MANCHESTER.

#### TO DRAUGHTSMEN AND OTHERS.

**TWO PREMIUMS**, of £10 and £5 each, will be GIVEN for the BEST DESIGNS for a STREET RAILWAY CARRIAGE, capable of carrying 60 passengers (30 inside and 30 outside). The elevations, sides, and ends must be accompanied by full working and sectional drawings, with figured measurements.

The object is to obtain lightness and elegance combined with strength, and it is requested that anything patent, either in wheels or springs, may be avoided as much as possible.

The drawings to be made on the scale of an inch to the foot, cleanly and clearly executed, without colouring or tinting.

The said drawings must be delivered without any distinctive mark, excepting a motto, to the care of the Editor of "The Illustrated Midland News," No. 108, New-street, Birmingham, before the 1st of October next, accompanied by a sealed envelope, with the motto outside, and containing the name and address of the draughtsman inside. The whole of the drawings will be submitted to thorough practical judges, and their decision given before the sealed envelope containing the names are opened.

The Prize Designs to become the property of the advertiser. Unsuccessful competitors will have their drawings sent back to them, free of expense, before the 1st of October.

The amount of the Prizes (£15) is deposited with the Editor of "The Illustrated Midland News," 108, New-street, Birmingham.

\* \* \* With the Journal of this week a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: Explosions in Coal Mines—Lighting Mines; Trades Unions on their Trial; Iron Works and Coal Mining in South Wales (M. B. Gardner); South Staffordshire and Shropshire Coal Fields, No. XIV. (J. Randall); Colliery Machinery in America; Prospects of the Copper Trade (A. Bennett); Mining on the Rhine, No. VII.; Mineral Wealth of Portugal (E. H. Davis and W. Lintern)—Coal Trade of India—the Mahovos—Diamonds at the Cape—Improved Machinery for Getting Coal (illustrated), J. S. Walker—New Blast Heating Apparatus (H. Hamilton)—Australasia: Monthly Summary; Mine Reports; Diamonds in Australia; Railway Rolling Stock; Quartz Mining in Victoria—New Tin Mines in Siam, &c.

#### The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, SEPT. 10, 1869.

COPPER.	£ s. d.	£ s. d.	IRON.	Per ton.
Best selected, p. ton	76	0	77	0 0
Tough cake and tile	74	0	75	0 0
Sheathing & sheets	78	0	79	0 0
Bolts	78	0	—	—
Bottoms	81	0	83	0 0
Old (Exchange)	65	0	—	—
Burr Bars	77	0	—	—
Wire.....per lb.	0	1 0	0	0 1 0 0
Tubes	0	0	11½	1 0
BRASS.			STEEL.	Per lb.
Sheets.....per lb.	94	—	Do. mch.	Tyne or Tees 6 10
Wire.....	8½d.	—	Do., railway	in Wales 7 5
Tubes	10½d.	—	Do., Swed.	in London 9 17
			To arrive.....	10 0 0
Yellow Metal Sheath, p. lb.	7d.	—	Pig, No. 1, in Clyde..	2 13 0 3 1
Sheets.....	6½d.	—	Do. f. o. b. Tyne or Tees 2 9	6—
			Do. Nos. 3, 4, f. o. b. do.	2 6 2 7
SPELTER.			Railway chairs.....	5 10 0 5 15
Foreign on the spot £20 10 0	20 20 15 0		" spikes.....	11 0 0 12 0
" to arrive..	20 10 0	20 20 15 0	Indian Charcoal Piggs,	
			In London, p. ton..	6 0 0 6 10
ZINC.			STEEL.	Per ton.
In sheets.....	£26	0	126	0 0
			SWED.	Per ton.
ENGLISH blocks.....	126	0 0	Swed., in kegs (rolled).....	—
Do., bars (in barrels).....	127	0 0	(hammered).....	14 15 0 15 5 0
Do., refined.....	134	0 0	Ditto, in faggots.....	15 16 0 0
Banca.....	135	0 0	English, spring.....	19 0 23 0
Straits.....	132	0 0	QUICKSILVER (p. bottle) 6 17 0 —	
TIN-PLATES.	Per box.		LEAD.	Per ton.
IC Charcoal, 1st qua.	1 8	0 1 10	English Pig, com.....	19 0 0
IC Ditto, 1st qua.	1 14	0 1 10	Ditto, LB.....	19 10 0
IC Ditto, 2d quality.	1 6	0 1 8	Ditto, WB.....	20 5 0
IC Ditto, 2d quality.	1 12	0 1 4	Ditto, sheet.....	19 10 0
IC Coke.....	1 3	0 1 4	Ditto, red lead.....	20 0 20 10
IC Ditto.....	1 9	0 1 6	Ditto, white.....	27 0 30 0
Canada plates, p. ton.	13 10	0 0	Ditto, patent shot.....	22 10 0
Ditto, at works.....	12 10	0 0	Spanish.....	18 5 0
			At the works, 1s. to 1s. 6d. per box less.	

**REMARKS.**—Very little alteration has taken place in the aspect of the Metal Market during the week, and business has still continued to remain quiet. If anything, there appears to be a little more enquiry, and we still entertain the hope that in a week or two we shall see a better demand springing up, and that a revival will take place in the metal trade. There did seem some hope lately that a decided improvement would have occurred in one of the principal metals, but, for the time at least, these anticipations do not appear now likely to be realised, and this metal has again relapsed into the quiescent state in which it has existed for so long a time. It is certainly discouraging to find that the hopes which had been cherished in this quarter are doomed to disappointment. We still have to complain of the want of orders from India, from whence we have had so few for a much longer period than has transpired for a very long time previously; indeed, the Indian trade for metals has hardly ever been known to be so bad; but as accounts from India continue to be by no means of an unfavourable character, this lack of orders for metals is most unaccountable, and as there is no apparent reason why they should not come forward, we still entertain the hope that ere long we shall see a marked improvement take place, and that the usual number of orders will commence to flow in, and when this is the case an impetus will be given to the metal trade, which it now decidedly wants. Prices have not materially altered during the week, and are generally tolerably firm at the quotations; in one instance some advance occurred, which, however, did not last any length of time, and has now returned to about its former position. Fortunately, the Money Market still remains very easy, thereby affording advantages to any improvement in commercial affairs which may arise.

**COPPER.**—The market for this metal has not realised the expectations expressed in our last report; since then advices have been received from Valparaiso, dated August 3, stating the charters for the last half of July to have amounted to 2900 tons. This intelligence has had the effect of retarding the improvement which had commenced, and operations which were in course became suspended. Chili bar has receded to 67. 10s., 68. cash, and ore is quoted at 13s. 6d. per unit. The market now remains again quiet.

**IRON.**—In Staffordshire orders continue much the same, and most of the leading houses are tolerably well employed, but second-class makers are slack. There is no improvement in prices, and that of rails is not sufficient to induce any more of the manufacturers to embark in that branch of the trade. The workmen are promoting an agitation for an advance of wages, which the masters say is impossible so long as prices remain at the present rates. In Welsh the change in the temperature has enabled the works to be kept going with more regularity, excepting where there is a scarcity of water. Home orders, both for rails and other qualities, are being offered more freely, and stocks in the hands of consumers are reported to be low. The foreign trade is buoyant, the principal establishments being actively employed on orders which must be completed within the next six weeks. Fresh contracts for considerable quantities of railway iron are in the market, but makers decline to accept more engagements except for forward delivery, and at advanced prices. In Swedish iron there is not much doing. In Scotch pig-iron a large business has been done in warrants, and prices went up to 53s. 6d. cash, and 53s. 8d. one month, but in consequence of rumours as to adverse operations in Paris and New York prices have receded to 52s. 9d. cash, and 53s. one month.

**LEAD.**—A moderate business continues to be done, and prices are steady at the quotations.

**TIN.**—The autumn sale of the Dutch Trading Company has been fixed for Oct. 1, to comprise 45,200 slabs Banca, and 1100 slabs Biliton, to which will be added a portion of 16,000 slabs Banca now on the way, which may arrive before Sept. 27. The quantity being in excess of what was anticipated has had the effect of checking operations in Straits, and the price has consequently somewhat receded, and business has now been done at 132s. cash. On Monday the smelters of English announced an advance of 3s. per ton, making prices 126s. for blocks, 127s. for bars, and 134s. for refined.

**SPELTER** continues still without animation, and business has been done on the spot at 20, 10s., which may be considered the quotation.

**TIN-PLATES.**—Makers report an improved enquiry, consequent upon the large falling off in the deliveries to the warehouses at Liverpool, and quotations show an upward tendency.

**STEEL** and **QUICKSILVER** without alteration.

**THE IRON TRADE**—(Griffiths' Weekly Report).—The demand for iron is moderately steady, without the slightest tendency to any change in value for any kinds. The orders brought by the East India mail last Monday are light and unimportant; we had scarcely any orders for tin-plates by this mail. The enquiries for general kinds of iron are but moderate; on this market this week there has been a fair business done, nevertheless, in plates, hoops, nail rods, fencing rods, girder iron, and marked bars of the leading brands of North and South Staffordshire. Slip plates have been in fair demand; these orders are now frequently taken by the Scotch houses and the works on the Tees. The panic on the Paris Bourse, and consequent sympathy at Capel-court, has had a bad effect upon all markets here, the large consumers of iron being railway companies and others, who depend so much upon their own credit, and are so easily weakened in their ability to carry out large works by the injury inflicted from any cause on public credit in financial circles. A contract for 4000 tons of rails for an English railway company, which would have been closed yesterday, was postponed in consequence of the misgivings manifested at Paris and here this week. The backbone of the trade at this moment is the pressing demand for rails, which we are glad to say continues unabated. With regard to the general trade, it must, however, be admitted that the demand during the last

month has not kept pace with the opinions previously formed by the heads of the oldest houses here, who are, perhaps, best able to judge, and, as we have stated before, all we can expect on this side of Christmas is a moderately steady trade at the present low prices for this year. Any advance in price with our present prospects appears to us quite out of the question—at all events, for some months. It is true that the Scotch manufacturers are busy in ship plates and engles. Low Moor Bowling, Taylor Brothers, are fairly off for orders in their high-class specialties. Middlesborough are busy in rails, good orders for angles, and moderately off for orders for plates. In North Staffordshire, a moderate business is being done in hoops. In South Staffordshire, the leading houses continue to keep their works running full time in best bars; at the same time, it cannot be denied that the second and third class makers continue very short of orders, and unable to keep their works running full time. Under these circumstances we report the general iron trade quite inanimate, with very little prospect of immediate improvement; this remark, however, cannot be applied to rails. Tin-plates are flat, with less business doing this week.—75, Old Broad-street, London, Sept. 11.

**THE COPPER TRADE.**—Messrs. Vivian, Younger, and Bond.—The trade in this article has been by no means brisk, the variety of rumours received from the Continent having cast a gloom over the spirits of buyers. A few transactions have taken place in Chili. Bars at 68. cash, and 69. 10s. to 69. 15s. with extended prompt. Some regulus and ores have been done at 13s. 6d. The business in fine foreign and English copper has been trifling.

**Messrs. James and Shakespeare.**—On the 3d inst. a telegram, via New York, advised that the Chili charters from July 18 to Aug. 2 were 1100 tons of bars and ingots, and 1700 tons of metal in ore and regulus for England, and 100 tons of metal for France—this being in excess of what was calculated on, had depressing effect on the market, and the prices of Chili bars fell from 69. to 67. 10s., at which a few sales were made; but, as there were more buyers than sellers at this price, the market soon rallied to 68., which was paid yesterday for Urmeneta. A good quantity of ore and regulus has been sold this week at 13s. 6d., and holders are now asking 3d. per ton more.

**THE**

Mines, Great Wheal Vor shares have commanded a good deal of attention, owing to the continued improving character of the western portion; the shares are now quoted 17½ to 18; East Lovell shares have also been in demand, at great improvement, and close 20 to 20½. Van shares are very firm, at former values—35 to 37; the mine still continues very rich, and the new workings are progressing in most satisfactory manner. West Chiverton, 52 to 53; Great Laxey, 18½ to 19½; Chiverton, 3 to 3½; Chiverton Moor, 3½ to 4½; Prince of Wales, 21s. to 23s.; East Caradon, 4½ to 5½; West Caradon, 6½ to 7½; Marke Valley, 8½ to 9; Caldbeck Fells, 30s. to 32s. 6d. Hindton Down shares have improved to 24; the lode in the 100 fathom level west is reported to be worth 40/- per fathom. Seton, 35 to 40.

The TRAM-RAILWAY COMPANY OF GREAT BRITAIN has been incorporated for the purpose of developing the inventions of Messrs. Page and Haworth. The capital is fixed at 500,000/-, in five series of 100,000/- each. The first series of 100,000/-, in shares of 10/- each, is to be now issued. The object of the enterprise is to construct tramways on the existing roads, and thus bring outlying places into direct communication with the existing railway systems without the necessity of constructing costly viaducts, embankments, and bridges, or making tunnels and cuttings. The advantage of some such means of conveyance to mines situated out of the immediate line of railway is beyond question, since it would admit of much ore which at present will not repay cost of carriage being sent to market. Mines which at present are barely paying their way would thus be made to return profits, and those which are making calls would pay cost. It is stated by the company's engineers that, whilst the cost per mile of existing railways, including purchase of land, has averaged 35,000/-, that of the proposed lines will not exceed 2000/- per mile. Consultations have been had with the principal railway companies, with a view to improving their traffic by means of tramway feeders, and the communications have been favourably received, it being understood that co-operation, and not competition, is the object of the company. Provisional arrangements have been made for the use of the company's system in connection with a line through a very important mineral district in Devonshire, for which an Act has already been obtained. Indeed, the system would appear to be especially adapted for mineral traffic, and a report of the company's manager upon a large coal and iron district shows that by the construction of one of the company's tramways a saving of 50 per cent. in the cost of carrying the mineral could frequently be effected, allowing the Tram-Railway Company to derive a profit of 20 per cent. upon the cost of constructing the line. The public highways will not in any way be obstructed, nor the ordinary traffic impeded, by the introduction of this company's tramways, as their systems offer no obstruction or danger whatever to vehicles passing over them. An ingenious locomotive, the invention of Mr. Page, will be employed where required, which will ascend steep gradients, make no noise, and by incorporating with it the leading characteristics of Allen's economic engine, will be worked at a cost of about one-third of an ordinary locomotive. A new and improved brake will also be brought into requisition, and the signalling will be on a different principle to that now adopted—the use of the obnoxious whistle being superseded. Sir George Bowyer, Bart., is the chairman of the company, and the prospectus will be found in another column.

It is satisfactory to find that the applications for shares in the GOLD MINING COMPANY OF YUBA have assured the successful establishment of the enterprise. The necessary legal formalities will, it is expected, be completed during the next few days.

The Standards of Tin Ore and Price of Metal were advanced on Monday, and are now as follows:—Ore: Common, 11s.; superior common, 11s.; fine, 11s.; superior fine, 12s.; Metal: Common, 12s.; refined, 13s.

At Wheal Mary Ann meeting, on Tuesday (Mr. James Cock in the chair), the accounts for the three months ending June showed a credit balance of 22551. 15s. 6d. The profit on the three months' working was 6481. 1s. 4d. A dividend of 7681. 15s. per share was declared, and 14571. 15s. 6d. carried to the credit of next account. Captains Clymo, Harris, Stevens, and Skeat reported upon the various points of operation. The stoves and pitches are producing much the same as usual.

At the Tincroft Mine meeting, on Tuesday (Capt. Wm. Teague in the chair), the accounts showed a profit on the quarter's working of 35501. 3s. 1d. The tin sold realised 10,8171. 17s. 5d. A dividend of 3000/- (10s. per share) was declared, and the balance considerably increased. Mr. Hindton proposed that, in consideration of the able services of Capt. Teague, and in recognition of his untiring energy in the management of the Tincroft Mines, he be presented with a service of plate of the value of 120 guineas. This was duly seconded, and Messrs. Hindton, Wickett, and Sampson were appointed as a committee to carry it out. Capt. Teague having thanked the shareholders for their kindness, said it was quite true they had some difficulties to overcome, more especially in getting the concern reconstituted from the Scrip to the Cost-book Principle. He was happy to say that, after a hard fight, they had been successful, and he hoped they would now long continue to realise a season of prosperity, which they could with fair reason expect. Mr. Arthur Pendavos Vivian, M.P., said he was told by his friend who accompanied him that at Tincroft he would see a model account-house and a model mine meeting. He was pleased to be able to endorse those sentiments, and could only regret that a previous invitation to dine at Dolcoath prevented his accepting Capt. Teague's invitation to dine with them on that occasion.

At Holmbush and Kelly Bray meeting, on Wednesday, held on the mine, a dividend of 1s. per share was declared. Particulars of the meeting in next week's Journal.

At the Pickard's Down Silver-lead Mining Company meeting, held at Barnstaple, on Sept. 2 (Dr. Kingdon in the chair), the accounts having been examined and passed, a call of 1s. per share was made. The reports from Capts. Joseph Richards and Edward Eddy were considered highly satisfactory. Dr. A. S. Kingdon, and Messrs. Incledon, Bencraft, and Wm. Trelease were elected the committee of management.

At the Dorothea West Green, Blue, and Red Slate Company (Limited) extraordinary general meeting, held on Aug. 9, it was resolved that the company be wound-up voluntarily, and that Mr. F. F. Buffen, of 15, Coleman-street, be appointed liquidator.

At Cardon Consols meeting, on Thursday, the accounts showed a debit balance of 4421. 3s. 4d. A call of 12s. 6d. per share was made.

At the Linares Lead Mining Company meeting, on Thursday, the directors declared a dividend of 5s. per share, free of income tax.

At the Fortuna Company meeting, on Thursday, the directors declared a dividend of 3s. per share, free of income tax.

At the Alamillos Company meeting, on Thursday, the directors declared a dividend of 2s. per share, free of income tax.

At the Val Sassan Mines Company (Limited) extraordinary general meeting, on Tuesday, the resolutions passed on Aug. 11, that the company should be wound-up voluntarily, and appointing a liquidator, were duly confirmed.

COAL MARKET.—The fresh arrivals this week only number 63 ships. The demand for house coals has ruled steady, and a clearance was effected at prices closing at an advance of 6d. in the week upon both house and Hartley coals. Haswell Wallsend, 19s.; Hetton Lyons Wallsend, 16s.—Unsold, one cargo: 55 ships at sea.

TO CONTRACTORS, ENGINEERS, &c.

FOR SALE, SECOND HAND, ONE 18 in. CENTRIFUGAL PUMP, by Easton, Amos, and Co. ONE BOLT AND NUT SCREWING MACHINE, by Peacock and Tannet, to screw from 3½ in. to 1½ in.

ONE LATHE FOR TURNING PICK AND HAMMER SHAFTS, by Greenwood and Batley.

All nearly new, and in good condition.

WANTED TO PURCHASE.—SCRAP IRON AND OLD RAILS.

Apply to—WEAR AND COLLEY, BROAD CHARE, NEWCASTLE-ON-TYNE.

PISTONS, AND AIR-PUMP BUCKETS, FITTED WITH

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Of which above FIVE THOUSAND have been made by

MESSRS. MATHER AND PLATT, SALFORD IRONWORKS, MANCHESTER.

SAVING OF COAL.

GREEN'S IMPROVED PATENT FUEL ECONOMISER, ATTACHED TO STEAM BOILERS,

Heats the feed water with the wasted heat; saves 20 to 25 per cent. of the fuel is now at work to more than a million horse power; can be applied to new or old boilers without stoppage.

PATENTEE AND SOLE MAKERS.

E. GREEN AND SON, 14, ST. ANN'S SQUARE, MANCHESTER. WORKS.—WAKEFIELD.

NOTICE.  
ROYAL SCHOOL OF MINES,  
JERMYN STREET, LONDON.

THE SESSION will BEGIN on MONDAY, the 4th day of OCTOBER, 1869. Prospectuses may be had on application.

TRENTHAM REEKS, Registrar.

MINING CAPTAIN WANTED.

A RESIDENT MINING CAPTAIN is REQUIRED by the Directors of the OHIO CROWN LEAD AND SILVER MINING COMPANY (LIMITED). None need apply except those who are thoroughly conversant with Mining Operations in all its details.

Testimonials, with salary expected, to be forwarded to the Chairman—WM. STEWART, Esq., Derby-square, Douglas, Isle of Man.

TO LEAD AND COPPER MANUFACTURERS.

THE ADVERTISER (Thirty-five years of age) is OPEN for an ENGAGEMENT as FOREMAN ROLLER OF COPPER, BRASS, or LEAD, having had many years' experience in such capacity. First-class references.

Apply to "J. O." MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO MINING AGENTS, OR BROKERS.

WANTED, a PARTY to PLACE the REMAINING SHARES of a SMALL PRIVATE COMPANY. One-half of the shares are taken. The company possess a valuable property, and only require increased capital to develop it to greater advantage.

Address, "Z. Z." Messrs. Bowles and Son, George-street, Mansion House, London, E.C.

WANTED, for a DERBYSHIRE LEAD MINE, a GOOD PITMAN, accustomed to pumps, and sinking in limestone.

Address, stating age and terms, to "J. F." Box 226, Post Office, Sheffield.

SPAIN.

A N ENGLISH GENTLEMAN, lately returned to this country, after a lengthened residence in Spain, where he has for the last eighteen months been ENGAGED in DEVELOPING a VALUABLE COPPER MINE, situated in one of the richest mineral districts of the country. REQUIRES MORE CAPITAL, and is DESIROUS of MEETING with a GENTLEMAN who can command £4000 to £5000 for further necessary operations. Satisfactory explanations will be afforded, and all details communicated at an interview.

Apply, "X.," care of Mr. Burbidge, Advertising Agent, 35A, Moorgate-street, E.C.

COPPER AGENCY, &c.

A GENTLEMAN, connected for many years with the Copper Trade in a large and important manufacturing town, is DESIROUS of ACCEPTING AGENCIES for the SALE of THIS as well as OTHER METALS, &c.

Apply, by letter in the first instance, to "Copper," care of Messrs. W. H. Smith and Son, Union-street, Birmingham.

A GERMAN GENTLEMAN, thoroughly acquainted with the FOREIGN IRON TRADE, through an experience acquired during a six years' connection with a large North Country Export Firm, WANTS a RESPONSIBLE POSITION, as PARTNER or MANAGER, in a business suiting his experience. Prefers offers by Manufacturers desirous of taking up the Foreign Trade. Knows most European languages. Traveled frequently in Russia and Germany. First-class references. Some capital.

Address, "K. L." MINING JOURNAL Office, 26, Fleet-street, London, E.C.

A N EXPERIENCED MINING ENGINEER and COLLIERY MANAGER is OPEN to an ENGAGEMENT. Has had great practice in opening new works; well up in machinery, ventilation, and costs. First-class references as to ability and character.

Would go out to Nova Scotia, or other British Colony.

Address, "X. L." MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO PROMOTERS OF PUBLIC COMPANIES, &c.

THE ADVERTISER holds a VALUABLE TRACT of MINERAL LAND, including MINES containing SEVENTY PER CENT. COPPER, and TEN PER CENT. GOLD. He wishes to MEET with RESPECTABLE PARTIES to FORM a COMPANY. The property is situated near a sea port, and a railway is just being completed in the district.

For particulars, address, "South America," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO COALMASTERS AND IRONMASTERS.

TO BE SOLD, OR LET ON ROYALTY, the MINE of COAL under about FIFTY ACRES of LAND adjoining a railway.

For particulars, apply to Mr. G. DAVIDSON, Cledbury Mortimer, Salop.

TO BE SOLD OR LET.—A SMALL COLLIERY, working the TOP HARD SEAM of COAL, situated near ECKINGTON, in the county of DERBY.

Apply at the office of Mr. T. W. JEFFCOCK, 18, Bank-street, Sheffield.

SLAB QUARRY.

TO BE SOLD, a SLAB QUARRY, situated in the WEST RIDING OF YORKSHIRE, where a new railway is being made, passing close to the quarry.

The rock is very hard, and lays in beds varying in thickness from 1 to 20 yards square. A first-class medal was awarded for these slabs at the Exhibition.

The lease is subject to a small ground rent, and no royalty.

Address—"Alpha," Post Office, Chester.

FOR SALE, for £2000, ONE-FOURTH in a FIRST-CLASS LEAD and COPPER SETT. Munde can be seen in masses cropping to the surface; 5 tons have been raised already from a hole 4 feet deep; large specks of lead are to be seen in the spar and munde; three lodes passing through the sett, two of which will intersect in 10 fms. deep. The munde can be sold in any quantities for 20s. per ton. Two years' grant from May last, with the usual condition for a lease of 25 years at 1-2d per rood; position unrivaled. An adit can be driven to intersect the lodes at 50 fms. deep.

Application to R. J. Box, Post Office, Bristol.

[Specimens can be seen at the MINING JOURNAL Office, No. 26, Fleet-street, London, E.C.]

RHENISH PRUSSIA.

SEVERAL VALUABLE MINES FOR SALE.—LEAD COPPER, BLENDE, and IRON. The Mining Laws of Prussia give with the concession to work, an absolute right of property in the mine for ever, subject only to a royalty of 2 per cent.

Apply to Mr. YOUNGHUSBAND, 6½, Wilhelm Strasse, Bonn-on-the-Rhine.

R A I L S F O R S A L E :—TWO HUNDRED TONS unused FLANGE SECTION, 5s and 6s. per yd.

ONE HUNDRED TONS unused D.H., 70 lbs. per yard.

Apply to—MR. ROBERT WRIGHTSON, NEWPORT, MONMOUTHSHIRE.

FOR SALE, BY PRIVATE CONTRACT.—A 40 ft. WATER-WHEEL, 3 ft. breast; and a 32 in. CRUSHER, both new.—Apply to Mr. CARNE, No. 12, North-buildings, Broad-street Terminus, London, E.C.

WANTED TO PURCHASE.—A SECONDHAND WATER WHEEL, about 50 feet in diameter; and a SECONDHAND SLATE PLANING MACHINE. Delivered free either at Port Madoc or Brynkir station.

Apply, stating price, to "T. V. M." Battersea Works, London, S.W.

TAQUARIL GOLD MINING COMPANY (LIMITED).—The Board of Directors of this company have the pleasure to announce that they have RECEIVED from Brazil a SAMPLE OF GOLD taken from the workings at Taquaril, which can be inspected at the company's office.

By Order, FREDK. R. BLUETT, Secretary.

51, Moorgate-street, Sept. 8, 1869.

CAPTAIN A B SALOM F R A N C I S, GOGINAN, ABERYSTWITH, MINING AGENT, ENGINEER, AND SURVEYOR.

The great success which is attending the opening and working of the Mines in the counties of Cardigan and Montgomery, and the many properties placed at the disposal of Capt. ABSALOM FRANCIS, induces him to offer his services, either to ADVISE, INSPECT, REPORT, or SURVEY, for Mining Companies or private shareholders.

For terms, apply to Capt. ABSALOM FRANCIS, as above.

TO CONTRACTORS, ENGINEERS, &c.

FOR SALE, SECOND HAND, ONE 18 in. CENTRIFUGAL PUMP, by Easton, Amos, and Co.

ONE BOLT AND NUT SCREWING MACHINE, by Peacock and Tannet, to screw from 3½ in. to 1½ in.

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Heats the feed water with the wasted heat; saves 20 to 25 per cent. of the fuel is now at work to more than a million horse

COLORADO:  
ITS HISTORY, GEOGRAPHY, AND MINING,  
BY R. O. OLD,  
Including a COMPREHENSIVE CATALOGUE of SIX HUNDRED SAMPLES  
of ORES from its MINES.  
Post-free for two stamps, addressed to British and Colorado Mining Bureau,  
Bartholomew House, Bank of England, E.C.

### NOTICES TO CORRESPONDENTS.

\* \* \* Much inconvenience having arisen in consequence of several of the numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

PRACTICAL MINING—MEASUREMENT OF GROUND.—I beg to inform "T. P." that in the mines of Devon and Cornwall the cubic fathom measurement is not applied when quoting the yield of ore per fm. It is a rule with mining captains to state the value of the different lodes per fathom in extent, or "running measure," irrespective of their width. For instance, if the width of a lode is 1 or more feet, they say it produces 1½ ton (more or less) of ore per fathom, meaning superficial. This is a local custom with us West Country folk, but is generally understood by directors and secretaries of mining companies.—R.

PRACTICAL MINING—MEASUREMENT OF GROUND.—For "P. P.?" information, I have always understood a fathom, when quoting the value of the lode, to mean 6 ft. high and 6 ft. long, regardless of width. If cubic fathom is meant, then cubic is generally stated.—W. T. H.: Minera.

PANT-Y-PYDWE (near Holywell).—Will some one interested in this mine kindly furnish me with the present state of its affairs? Is there any prospect of a speedy liquidation of the old company, and paying off the debts now for years outstanding? or what course should a creditor pursue so as to recover his claim?—A CREDITOR.

VAULCLUSE MINING COMPANY (U.S.).—The communication from "C. S. R." received, with thanks. We shall be glad to have information as frequently as convenient.

STEAM ENGINEERING.—Application should be made to Mr. J. Stewart, of the Blackwall Iron Works; or to Mr. William Watkins, of Fenchurch-street.

COLONEL THOMPSON, LATE OF PARAGUAY.—A letter from Berlin for this gentleman is lying at the *Mining Journal* Office; it will be forwarded upon his address being sent to the Editor.

## THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, SEPTEMBER 11, 1869.

### THE PRICE TO BE PAID FOR LABOUR IN COAL GETTING.

Labour is again aggressive. Misfortunes, shared alike by masters and men, and which placed the whole commercial world in mourning, had the effect after the recent crisis not only of sobering the minds of speculative capitalists, but likewise of bringing about some little moderation in the previous immoderate demands of Unionist adventurers. But no sooner have the first faint streaks of the rising sun of prosperity appeared at some points of the trade horizon than the latter are again upon the scene with much conspicuousness, and are seriously retarding the return of steady prosperity for which we have all been so long looking. Their scheme is Utopian. The plan is as old as are the foundations of the Tower of Babel, which owed their existence to a desire very much akin to that which is being expressed in this day by the leaders in the ranks of protectionist labour in Great Britain. There is to be one huge confederacy, to which every other interest shall be in subordination. The coal trade of the country, say they, has got into its present chaotic state in consequence of reckless competition on the part of the masters, and the Lancashire miners believed it could be put right by a grand Union, which would not only adjust labour matters, but would also give the masters an opportunity of righting prices, so as to give a fair profit all the way round. If they all held their own, one portion of the masters would not be undervalued by another. If there were one grand Union, Lancashire masters would no longer employ Staffordshire men to beat their own men, or vice versa. Neither would the men in one district send money to the men and coal to the masters in another district, thus prolonging a strike indefinitely: but the tools would be put down whenever there was any dispute unsettled. Here is the philosopher's stone by which labour and capital employed in coal winning shall each acquire a competency. Mr. PICKARD and the other Lancashire miners have found it, and it only remains for colliers everywhere to believe in its virtues in order to the universal enrichment.

It is surprising that when this millennium was passed before the wondering gaze of certain of the South Staffordshire colliers, last Tuesday, at Dudley, the men should, in substance, have shouted "Eureka?" The reporters set down "Cheers" as indicative of the outburst of feeling with which the Staffordshire moon "took up the wondrous tale" that the shining firmament of Lancashire has commenced to sing. Nor do the miners of Lancashire alone believe in it. A greater authority than they all encourages the movement, and scorns all notion of its failure. Writing on the eve of his re-embarkation for the United States, the President of the National Association himself enjoins them—"Go on strongly with your agitation. A failure! Never, now that you have put your hand to the plough. In regard to the working of short time, if the men are not ripe for at once proclaiming it, by all means go on agitating till they are so. You should make another levy, and meet the expenses. Go on till Wales, North and South, are in common with you. Go on till Staffordshire, North and South, have joined in the same cry." No wonder that after this it should be resolved "by a unanimous vote" that "the amalgamation be decided upon;" that "the agitation should be carried on by means of paid agents and others; and that subscriptions should be collected." Spirits are, therefore, to be called from the vasty deep. But there are Hotspurs as well as Glendowers, and some of these Hotspurs are in Staffordshire, where they are now responding with the query of former Hotspurs, and are enquiring if these same spirits will come when the Glendowers do call for them?

Cruel men that they should not have faith in their leaders? One of these last, even Mr. PICKARD himself, went to "pipe" to them at Hanley last Saturday, but so little interest was taken in the movement that very few attended, and when it was suggested that the meeting should be two hours later, there was the dark admission by one of their number that at the later hour they would be incapable of dancing. The local papers in narrating the proceedings set down this exclamation as, "They'll be all drunk then." We will not linger upon it here, but does not this suggest that the collier has a greater bane than small pay and long hours? A bane, this, of which he may rid himself without the help of paid Unionist agents. The truth is, that the Staffordshire colliers have been sickened of Unionism. At the last great strike their paid leaders promised them great things, but they could not perform what they promised, and local agents appropriated to their own use money which the men had subscribed to the common fund. But this is not all, the observant colliers know well that trade is slack, and that labour is abundant, and they have sufficient knowledge of the rudiments of political economy to be aware that as long as this is the case no combination, however extensive, can accomplish more than the smallest portion of what is now attempted.

Lancashire and Staffordshire are both, however (if the leaders of the Union can have their way), to be agitated very quickly, unless masters concede what it has been determined shall be asked of them. At the annual demonstration, on Monday last, at Wigan, of the South Lancashire colliers, a Mr. HALLIDAY, of Farnworth, spoke of the proposal to agitate for an advance of wages, and said that if the masters refused to comply with the notice that would shortly be sent in for an increase, he should advocate such a cessation of labour on the part of the colliers as would show to the manufacturing community the value of coal, and would compel a compliance with their demands; and Mr. PICKARD said that in three weeks a demand would be made for an advance of wages equal to the last reduction, and if this should not be successful they would have to put a little more steam on.

In South Staffordshire, the arrangement at present is not to go at first for a rise of wages, but for a reduction of two hours a day. This is to be asked in a memorial, to which the masters are desired

to return a reply before the first Monday in October. That "the little more steam" will be put on in South Lancashire, if it should be wanted, we have no doubt, but its success is not so conclusive.

Nor is it likely that the coal masters in South Staffordshire and East Worcestershire will be able to acquiesce in the memorial which has been sent to them. In the first place, it cannot be shown that the memorial has emanated from more than a fraction of their men, though, of course, there would be no difficulty in very soon removing all doubt on that head, for where is there a collier who would not quickly sign such a document? But next, and chiefly, there has been begun by the leading proprietor in that part of the kingdom a movement which will ultimately work most advantageously for the men there. Excessive weights have been for very many years a much greater grievance to the colliers in the Mid-England fields than long time. This is now attempted to be righted by the enforcement of the standard weight of 20 cwt. to a ton. It is true that to accomplish it the price has had to be reduced in the case in which the alteration has been notified, and, therefore, it is only reasonable to conclude that a reduction ought likewise to be expected in the cost of getting; but we have no doubt whatever that the men will be doing less work for the same money. Our advice to the Staffordshire men is to keep their attention directed to this abuse of excessive weights which their masters as well as themselves are desiring to remove, and leave the long hours for further negotiation.

As to the general question of the one great labour combination, to unite all the colliers of the United Kingdom, the masters, as a body, may have something to say, and it is already suggested that a special meeting of the Mining Association of Great Britain should at once be called, with a view to show the unreasonableness of the action for higher wages which is being counselled, and if need be organise defensive proceedings.

### THE STAVELEY COAL AND IRON COMPANY.

The effort made some time since by this company to form a society for the workmen at their extensive collieries and iron works, combining monetary payments in case of accidents and sickness, with a system of life assurance, by which the relatives of persons killed by accidents would be entitled to a certain sum, has so far been in every way successful. The company employ close upon 5000 hands, having seven or eight very large collieries, four blast-furnaces, ironstone mines, and some of the largest foundries in the kingdom. It will be recollect that about two years ago an attempt was made to introduce Union principles at the collieries, but owing to the determined stand made by Mr. C. MARKHAM, the managing director, it signal failed. Shortly after that a scheme for the formation of a sick and accident fund was brought forward, and the company, through Mr. MARKHAM, subscribed 2000L, in four yearly instalments of 500L, besides having previously established schools, a reading-room, lecture-hall, and dining-rooms, at a cost of nearly 15,000L. More recently still Mr. MARKHAM has laid the foundation for a school for Technical Education, so that, probably, at no works in the kingdom is there such care and thoughtful consideration taken for a large body of working men and their families as at Staveley, where the "free labour" principle prevails.

Through the kindness of Mr. MARKHAM we have been favoured with a copy of the report just issued for the past year of the operations of the society. With regard to the sick fund, it appears that the contributions received from the workmen for the half-year amounted to 2204L 12s. 5d., and the expenses for the same period to 2459L 14s. 2d., showing an excess of expenditure over receipts of 255L 12s. 5d. The committee believe that the excessive expenditure is entirely due to the fever which prevailed throughout the villages in the neighbourhood of the works in 1868 and the early part of 1869. Here, again, the consideration of the company intervenes, for we find a paragraph in the report which says—

"The directors of the Staveley Company having carefully considered the position of your affairs, and regretting the great mortality and sickness that have prevailed, and sympathising with the sufferings of their workpeople, have subscribed the sum of 200L towards liquidating the debt that has been incurred."

The accident fund, however, is in a far more healthy state, for we find that the contributions of the workmen for the year amounted to 1468L 14s. Id., which, together with the subscription of the Staveley Company, and the interest allowed by them, increase the receipts to 2039L 8s. 7d. The expenditure for the same period was 1473L 16s., and the balance in the hands of the company amounts to 1256L 17s. 8d. The total receipts during the year from both funds, with the 500L and interest received from the company, amounted to 4243L 10s. 4d., and the expenditure to 3933L 10s. 2d. As to the payments for deaths and injuries from accidents, we find that 100L was awarded to the relatives of a man who was crushed between two wagons, and the same sum to those of a man killed at one of the foundries by the machinery. For injuries, we find that 50L was awarded to a man who had lost his sight by being struck in the eye with a piece of metal, 60L to another whose ankle was crushed, and 32L to a man who was run over by a train at Chesterfield, and had both arms amputated. Thus all persons working for the company, in the event of injury, have provision made for them, so that they are not obliged, as is usually the case, to seek shelter in the workhouse or the hospital, or to beg for relief from their more fortunate fellow-workmen. The system is one, as we have before stated, which commends itself to all large employers of labour, more especially those engaged in mining operations, and where accidents are of frequent occurrence.

Those who feel interested in the subject, we have very little doubt, will be able to obtain all the necessary information from Mr. MARKHAM, to whom we have ourselves on more than one occasion been indebted, and to whose courtesy we can bear willing testimony.

### EXTENSION OF OUR COAL FIELDS.

Some two years since (in November, 1867), active exploratory operations were commenced on the Clifton estate, near Nottingham, and the progress of the work has from time to time been referred to in the *Mining Journal*. After six months boring operations, an excellent seam was—notwithstanding the adverse opinion as to its existence that had been expressed by geologists—cut, the moderate depth at which the coal was met with, and the thickness and quality of the seam, leaving no doubt as to the probability of its proving remunerative, if developed. In June, 1866, Lady CLIFTON turned the first sod for colliery operations, the ceremony being rendered especially attractive by the entertainment given by the late Sir ROBERT CLIFTON, Bart., upon the occasion. The commencement of practical operations was availed of by Mr. J. BROWN, M.E., of Sheffield and Barnsley, as an opportunity for expressing his belief that the whole of the seams of coal found in Derbyshire and Nottinghamshire existed on the Clifton estate; this would give a field of many hundreds of acres, the opening out of which would ensure employment for a very large number of men. The two principal seams in the counties named are the lower or Silkestone seam, which is found at a moderate depth in the south, but increases as it goes to the north, in the Barnsley district, for instance, at Darfield Main, it will be 635 yards in depth, although not sunk to. The bed is a first-class house coal, and a favourite in the London market, and also contains a large quantity of gas. The upper bed, or what in Yorkshire is termed the Barnsley bed, is worked at Cinderhill, near Nottingham, varying in thickness, at Staveley being about 6 feet, whilst it reaches 9 feet at Barnsley. The development of such seams as these in Nottingham should do much to dispel the fears of those who have misgiving as to the duration of the British coal fields.

From the time Lady CLIFTON cut the first sod, with the exception of an interval on the occasion of Sir ROBERT's death, the work has been going on with all possible rapidity, under the able direction of Mr. SAMUEL MARSH, who apparently manifests as much interest in the undertaking as if it were his own concern. Various strata were penetrated, and the result was all that could be desired. The success of the trial at Clifton led to other explorations in the neighbourhood. Mr. MARKHAM-CLIFTON, Sir ROBERT's successor, has since consulted several scientific gentlemen as to there being coal at Wilford. Their advice (although antagonistic to the opinion of several members of the British Association) being favourable, Mr. MARKHAM-CLIFTON purchased the whole of Sir ROBERT's "plant," and the sinking of the shaft has since been carried on. On Tuesday morning the workmen struck a seam of coal about 70 feet deep, and a large piece was

cut out and hoisted to the surface. Portions of the coal, which is very bright, were burned, and gave great satisfaction.

It appears that the shaft has been sunk 9 yards into the coal measures, and they were found to be exceedingly perfect and regular. The rock that has been pierced contains also in the veins a considerable quantity of lead. After this had been gone through a carboniferous rock thickly stratified was found. This rock was 3 ft. 9 in. in thickness, and it was much marked with coal. The next discovery, and one of the most important that had been made, was that of pure "bind," the appearance of which proved beyond a doubt the correctness of the borings. The depth of the bind sunk through was about 6 ft., and on Monday the first really good coal was brought to the surface. The exact thickness of the seam is not known, but the coal which it has yielded is of the finest quality—in fact, as good as it could possibly be wished to be. It is now being brought up in good quantities, but the seam, we understand, will not be worked until the shaft has been sunk considerably lower. In sinking in the part of the field where the shaft is much of the middle Red Sandstone formation which was met with in boring has been missed; but the "bunter," or Lower New Red, as it is called, has been met with, and it is of a similar kind, we understand, to that which overlies the coal measures in the greater part of Europe. The shaft will be a dry one, and under the excellent arrangements which are adopted at the collieries the sinking will, doubtless, continue to progress successfully. The accessibility of the coal beneath the red rocks has been a disputed point for some time; and, as the recent discoveries have fully borne out the favourable anticipations, it is thought that more confidence should be placed in the views of the same gentlemen with regard to equally satisfactory results, commercially speaking, being obtainable in the southern counties of England.

### PREVENTION OF OVERWINDING ACCIDENTS.

Reference has several times been made in the Journal to an improved apparatus invented by Mr. JOHN KING, of Pinxton, for preventing accidents from breakage of rope or overwinding, and to its adoption by the Butterley Company. Its practical value has now been proved. A curious accident occurred at the Britain Pit on Saturday, by which the chair and hook were called into requisition. On the Saturday working ceases at 4 o'clock, and shortly after the hanger-on left the colliery, supposing all the men to be out of the workings. Half-an-hour afterwards JOSEPH BUXTON and JABEZ COOPER arrived at the pit bottom, and for three hours endeavoured to attract the attention of someone at surface. At last they were heard by a young man, named WYLD, passing by, who knowing something of machinery, set the engine in motion, but when he had done so, it appears he lost all control over it, and the engine being a powerful one, it quickly drew an empty chair to the top, and being reversed, brought the other up, in which were two men, who had been so long imprisoned. But this time the engine not only went with tremendous speed, but did not stop, and took the chair and men right into the head stocks. The safety apparatus acted admirably. The hook disconnected itself, and the chair remained fixed, allowing the men to descend as best they could, the engine still keeping on its course, Wyld having left in a fright; some men who were in a field observed him going away as fast as he could. There can be no question that if such an affair had happened before the apparatus was connected the men would have been dashed to pieces. The men are naturally most grateful for their escape, and have forwarded to Mr. KING, through their overman, a most satisfactory testimonial. He writes:—

"The two men who were drawn up at the Great Britain Pit feel themselves greatly indebted to you and the Butterley Company for the safety apparatus fixed at this colliery, as this accident would certainly have proved fatal. The rest of the workmen at the same pit also feel grateful.—THOMAS FLETCHER, Overman."

After several experimental trials the Butterley Company had the apparatus applied at all their pits, and it must be alike gratifying to the inventor and to the company that the first time it was called into requisition it so completely answered the purpose for which it was erected. It is probable that the accident at the Britain Pit will lead to the adoption of the invention at many collieries in the district which are at present unprovided with safety appliances.

### THE MINERS' CONFERENCE AT DUDLEY.

The colliers represented at the Dudley Conference may well congratulate themselves upon the admirable manner in which the proceedings were conducted, and upon the sound judgment and ability displayed by their delegates. The questions of the hours of labour, the chartermaster system, the mode of working the thick coal, deductions from wages, the disposal of the South Staffordshire portion of the Hartley surplus, were discussed amongst many others, and the tone in which the discussion was carried on, and temperate suggestions made, contrasted most favourably with many working men's discussions which have, unfortunately, had to be reported. At Dudley abundant evidence was afforded that the speakers well knew what they wanted, and were thoroughly determined to exert themselves to their utmost to secure compliance with their wishes, but they thoroughly comprehended that their demands are far more likely to be met by proving the practicability of granting them than by endeavouring to propagate the erroneous view that they are purposely subjected to injustice by their employers.

Such men as those who attended the Dudley Conference will obtain by sound argument that which others of their class have failed to secure by bombastic clamour. It is much to be regretted that owing to the delegates refusal to give their names to the representatives of the press but few of the speakers can be connected by name with the observations they made. The Conference opened on Monday under the presidency of Mr. BREAKWELL, the miners' agent for the district, Mr. HICKMAN occupying the vice-chair, and Mr. WATTS acting as secretary *pro tem*. The proceedings were conducted in the most liberal spirit, the representatives of Unionists and non-Unionists being given equal privileges, both to speak and to vote upon the subjects brought forward.

In opening the Conference, the Chairman explained that they had met to consider the welfare of the whole of South Staffordshire, North Staffordshire, and East Worcestershire, and remarked that, owing to the system under which the thick coal of that district was obtained, a great number of lives were annually lost where they should not be, for thick coal working ought to be comparatively safe. Having mentioned the various subjects which it was proposed to discuss, he concluded by advocating calmness, fairness, and an endeavour to be unanimous on the part of the meeting. As to the best means of lessening the hours of labour, the men have, no doubt, acted wisely in fixing ten hours per day as the limit, for whilst eight hours per day is unreasonably short, and not likely to be granted, 10 hours per day is entirely free from that objection; and their resolution, "That it is the opinion of this meeting that 10 hours per day is sufficient for the men of this district to work in the mines, and that the masters be requested by memorial to give a reduction of two hours per day" is one that is likely to receive the support of every coalmaster in the district. At the suggestion of Mr. PICKARD (Wigan), a levy of 4d. per man was agreed to, Mr. HICKMAN being appointed treasurer, and Mr. WILLIAMS secretary. Referring to the present system of working the mines of the district, he referred to the chartermaster system as one of the evils, but he thought the men had no better treatment where there were managers under the masters—they wanted a working by the ton, and for the men to be fairly used. More inspection was considered by the meeting to be positively necessary, and it was observed that another of the evils under which they suffered was that at some pits the chartermasters worked the men four or five half-days instead of every other day. They were long half-days; and the masters, he believed, were not acquainted with the practice. One delegate moved—"That the masters should be asked to allow the men to leave work at 12 o'clock in the day when only half a day was to be made;" and another said they ought to leave at 11:30, inasmuch as they worked 12 hours for a day's work with their "drink hour" taken out, but they had to work six hours for half a day's work.

The "carrying-on system" was considered to be as bad as the chartermaster system, and nothing was so good as the ton, or piece-work, system. He knew a pit in the district (Barra's) where the men frequently worked three-quarters of a day and had but half a day's

pay. It was subsequently resolved to request the masters to introduce the tonnage system of payment. Mr. BRITTON said another evil they suffered under was giving the men their allowance of coal from a pit otherwise than the one in which they worked. An inferior coal was thus foisted upon the men, coal which was not worth the carrying away. He thought the masters knew nothing of this, or it would soon be altered. Mr. BREAKWELL said Rule 3 gave the managers power to send the coal from any pit, but it was a local rule, and it was a great question whether it was a legal rule. A delegate said he believed Judge KETTLE ordered a good quality of coal to be given to the men. Several delegates urged that the load of coal given to the collier should be given every four weeks, instead of at the end of every twenty-four turns. A delegate said he thought the masters would not accede to this, inasmuch as they would think the men would neglect their work if they had it every four weeks, and that it would be almost impossible to get the men to work that time consecutively. Ultimately a resolution was passed asking for the ton of coal every four weeks.

In discussing the baneful results of the present mode of working thick coal, several delegates, who had long been employed in the mines, said they had worked on the old system of getting thick coal, and on the new, and they found the new by far the best. The old system of getting coal in one division was productive of great loss of life, inasmuch as a man had to get coal so high that he found it impossible to tell whether he was safe or not. The system of getting coal in two divisions (or the new system) was safer by far, for there the man could put up his own timber. He could tell, too, whether there was gas about or not in the one case, and not in the other. The practice of getting in one division was condemned by the majority of the meeting, and all agreed that the two-divisions system was the best, and that all mines should be worked on that system, or in three divisions if possible, and a resolution was passed, agreeing to petition the House of Commons to enact that every thick coal pit should be worked in two divisions. It was also agreed that a committee should be appointed to draw up the petition.

Upon the question of dealing with the surplus of the "miners' field pay," the Chairman described the existing system as most unsatisfactory. He complained that after men had paid into a field club for many years they suddenly found that they had no benefit from it, and that just at the time when they required it most. He knew as a fact that in one colliery 4d. per week was taken from the men and 5s. per week given as sick pay; and at another colliery 6s. per week was given for 3d. per week. Several delegates gave instances of the unfair manner in which they had been treated, sometimes by masters and sometimes by surgeons. He knew of many instances where men would remain cripples all their lives, and have no benefit whatever from the money or from the medical advice given. The Chairman said he thought they ought to move in the matter, inasmuch as there was a clause in the Bill lately before Parliament upon the subject, and it was subsequently resolved unanimously—"That the proprietors of every mine be requested to put forward a balance-sheet every year."

The present uneducated condition in which the miners generally are found was a subject which gave rise to an animated discussion. Mr. PICKARD was sorry to admit that miners were so ill-educated, but it was not altogether their fault, but the fault of their training. Boys were sent into the mine without a chance. It was a quarter of a century since the masters did all in their power to prevent the passing of a Bill which would in some measure have ensured an education for the collier's child. But the miners must work and be united. The last Bill before Parliament owed its origin to the men, and the men ought to make the power of their combination felt. They should endeavour to get a shorter day's work. They would not only be physically better for the change, but they would have means of educating themselves. A delegate said he was sorry to see how the young miners wasted their time in card-playing, drinking, &c., instead of learning when they had the opportunity. He had spoken to them, and they had cursed him for his trouble. Another delegate described his attempts to improve himself. He was put into the pit at the early age of eight years, and knew nothing whatever. He believed that miners were a great deal what they made themselves, the same as other men. Mr. BRITTON said they all knew that ignorance begot ignorance, and that many miners were brought up in such a state because their parents knew not the blessings of learning. Schooling had of late years increased considerably in price, and it was a difficult thing for a miner to send his children to school. It was ultimately resolved—"That the present state of the miners is very unsatisfactory, so far as regards education."

It appears unlikely that the Wolverhampton Hospital will obtain possession of the "Hartley Balance" so easily as was at first anticipated, if at all, the colliers having unanimously expressed the opinion "that the surplus of the balance should be devoted to the miners' interests, and to no other purpose." The Chairman then suggested that a deputation should be appointed to wait upon Mr. FREDERICK SMITH, and to learn from him how matters stood—Mr. SMITH having promised to go to London to see Mr. FOSTER upon the subject, previous to going to the Preliminary Meeting of Coalmasters, to be shortly held in Birmingham. Mr. SMITH had been their friend, and it would be well to go to him.—A Delegate said if he were hurt he should not like to be taken from his wife and family to Wolverhampton. He preferred staying at home, and the Hartley balance, if raised to 3000*l.*, would assist him in staying at home instead of going to an hospital. Mr. SMITH had promised to give 12*l.* 10*s.* towards raising the sum to 3000*l.*—Mr. BRITTON and several other members of the Conference said it was a question whether the miners would give their sixpences to raise it to the sum, and then it would only want a very little subscription to keep it going.—Mr. BREAKWELL said they might depend upon it nothing would be done unless they put something to the balance. It had been said that the colliers would promise but never do, and, therefore, in conference should pledge themselves to do something in the matter. The Vice-Chairman thought the men with the levies could not raise sixpence per head in time for the meeting at Birmingham. The time for the close of the meeting had nearly arrived, and it was agreed to defer the matter until the adjourned Conference.—A vote of thanks was passed to Mr. FREDERICK SMITH (Lord DUDLEY's agent) for the gentlemanly and generous manner in which he acted in the matter.

But, perhaps, the most important question raised at the Conference was that of "The utility of amalgamation among the miners of Great Britain." Mr. PICKARD stated that in Lancashire the masters make an open reduction of 5 or 10 per cent. that the public can see, but they make a number of minor deductions which no one but the masters, the men, and their families perfectly understand. The miners of Lancashire believed that the present state of the coal trade was largely, if not wholly, brought about by reckless competition on the part of the masters. They had the notion, too, that if they were quiet, as they had been advised by many, a higher rate of wages would soon come to them. But the higher wages had not yet come, and the miners of Lancashire were determined to help themselves, and at the same time to assist the masters to create a better state of trade. They held a Conference at Manchester, and, among other things, supplied a number of delegates with money, and sent them abroad throughout the country. He was sent there, and he was glad to say he had been well received. Other men had been sent in various districts, and they were all at work. The agitation was one for the whole country, and for the good of the whole country, as well as for the good of districts. The Chairman said the amalgamation was necessary, for there were cases in the district round about them which wanted exposing. In that very parish a guardian of the poor sat at the board, and had promised to get for disabled man, hurt in his pit, the same sum per week from the parish which should have been paid out of his own pocket.—After further discussion Mr. HICKMAN proposed "That a general amalgamation be formed throughout the kingdom."—A Delegate seconded the resolution, but deprecated strikes. He said a firm front without defiance would do more good than any other course.—The resolution was then put, and carried unanimously, and it was suggested that miners should be sent into the districts where there was no Union to agitate the question among the workers until they brought them together.

That the success of the colliers' agitation would enable them to obtain a higher price for their labour is beyond question, but the men should thoroughly understand that a higher price for labour does not

always mean a larger weekly wage—frequently the reverse; and it is for working men to consider whether they prefer 11 days a fortnight at 5*s.* per day, or six days a fortnight at 6*s.* per day. If they prefer the latter they cannot do better than follow the dictates of such men as Messrs. McDONALD and PICKARD; but they should remember that free trade has compelled English capitalists to depend so entirely upon small profits and quick returns that a very small advance in the cost of production will suffice to deprive England of a market altogether, and place that market in the hands of foreign producers, who are prepared to supply it at a fraction above the English rates. This fact the men will, doubtless, speedily recognise. The tone of the discussion at the Dudley Conference displays a decided increase in thoughtfulness on the part of the delegates, and a greater disinclination to accept the statements of Mr. PICKARD and his friends without mature consideration. Mr. PICKARD was well received and attentively listened to, but his views were adopted only so far as the meeting considered they were conducive to the general, and not individual, welfare of the members of their body.

**COAL-CUTTING BY MACHINERY.**—The invention of Mr. JOHN S. WALKER, of Wigan, which is illustrated and described in the Supplement to this day's Journal, has already been successfully applied at one of the collieries in the district, but details as to the amount of work which it is capable of performing cannot at present be given, as it is found (as is the case with all new inventions) that trifling modifications materially add to the efficiency of the machine. The new cutter has been but a very short time in the pit, and they are getting better results every day. The statement of the quantity of coal which the machine is capable of cutting will be published soon.

**MECHANICAL VENTILATION OF MINES.**—An ingenious and simple apparatus for the ventilation of mines has been invented by Mr. SILAS OKE, of Illogan. The machine is designed for the purpose of introducing fresh air into deep workings, and removing the foul air therefrom by the same means—a simple but direct-acting apparatus, upon the principle of the air-pump, having a double action, one barrel forcing down fresh air and the other drawing up the foul air, the whole being worked by a lever, extremely simple in construction, and easy of application to any mine, at any depth, water-power, steam-power, or hand-power being used as a mode of motion. It is confidently anticipated that Mr. Oke's method of ventilation will prove a great boon to the mining community of Cornwall, and is, therefore, well worthy of being fairly and thoroughly tested.

**MANUFACTURING GAS, AND MELTING IRON ORE.**—The invention of Mr. H. A. BONNEVILLE, of Sackville-street, relates to a process for manufacturing illuminating gas in which hydrocarbon fluids, such as rosin, rosin oil, crude petroleum, waste vapours from oil wells, &c., are passed through a retort filled with metallic ore, heated to a red heat in such a manner that a portion of the surplus carbon contained in said hydrocarbon fluids will combine with the metal of the ore, while another portion thereof combines with the oxygen of the ore, and passes off in the form of carbonic acid, the remainder of the hydrocarbon being converted into hydrogen or illuminating gas, and thereby a double object is accomplished—the production of a permanent illuminating gas, and also the conversion of the ore into sponge of a superior quality at a comparatively small cost.

**MANUFACTURE OF ALUM.**—For converting commercial muriate of potash into sulphate, Mr. PETER SPENCE, of Newton Heath, Manchester, proposes to take the muriate of potash, and heat it with an excess of sulphuric acid, and by preference this excess should be about 50 per cent. above its combining quantity. The boiling or heating is conducted in a vessel similar to that which is used in the manufacture of chlorine from hydrochloric acid and peroxide of manganese, the heating medium being a jet or jets of steam, and the operation is continued from three to five hours, or until the whole of the muriatic acid is driven off. The resulting solution, which now contains sulphate of potash and free sulphuric acid, he runs into vessels where shale or other aluminous matters are being or are to be boiled with sulphuric acid, and the free acid in the said solution becomes available for combining with alumina, and the sulphate of potash enters into combination with the solution of sulphate of alumina to form alum, as is well known.

**SLATES SUPERSEDED.**—The continually extending use of enamelled iron plates for advertising purposes having tended materially to diminish the cost at which they can be brought into the market has led to the suggestion to employ them as a substitute for roofing slates and tiles. They would be fixed precisely as the galvanised tiles recently introduced. They are to be fastened by a single nail of galvanised iron, with which is used a small leaden washer, to render the nail-hole perfectly tight. The advantages of such tiles are numerous. In the first place, they are not affected by fire like zinc, they do not oxidise, and their dilatation and contraction have not the least effect on the roof.

**THE EXPORT COAL TRADE.**—The exports of coal from the United Kingdom presented a slight increase in July, having amounted in that month to 1,055,125 tons, as compared with 1,041,145 tons in July, 1868, and 925,031 tons in July, 1867. In these totals the exports of coal to France figured for 175,087 tons, as compared with 169,822 tons in July, 1868, and 192,012 tons in July, 1867. In the seven months ending July 31, this year, the exports of coal from the United Kingdom attained an aggregate of 5,840,596 tons, as compared with 6,244,031 tons in the corresponding period of 1868, and 5,689,380 tons in the corresponding period of 1867. In these totals the exports to France figured for 1,168,797 tons this year, against 1,134,324 tons and 1,228,510 tons respectively. Our exports of coal have declined this year to Russia, Sweden, Denmark, Holland, Spain, the United States, Brazil, and British India; but they have increased this year to Prussia, the Hanse Towns, France, and Italy. The value of the coal exported in July was 488,413*l.*, as compared with 511,487*l.* in July, 1868, and 478,500*l.* in July, 1867; and in the seven months ending July 31, this year, 2,785,924*l.*, against 3,097,433*l.* in the corresponding period of 1868, and 2,941,629*l.* in the same period of 1867.

**AUSTRALASIAN GOLD.**—The imports of Australasian gold into the United Kingdom promise to present a considerable increase this year. In the seven months ending July 31 they amounted to 4,568,676*l.*, as compared with 3,665,136*l.* in the corresponding period of 1868, and 2,700,273*l.* in the corresponding period of 1867. The Clunes district now holds a prominent place on the Melbourne market with its quartz mines. A company has been floated to work over 2000 acres alluvial at Huntly, Victoria, and the shares command a large premium; the property was purchased for 10,000*l.* At the last dates a crusher was about to be erected on the Barossa's field, in South Australia, and it was expected to show very handsome returns. A new gold field has been discovered in the north of Queensland, but at the date of recent advices the ground could hardly be considered to be more than partially tested. The creeks and gullies on the Gilbert river have been proved to be auriferous. There is little doubt that in the extreme north of Queensland valuable mineral deposits exist, but they require skill and money to develop them. However this may be, Queensland is increasing in importance as a gold field. A "rush" has again been made to Mokihinui (New Zealand), a small river about thirty miles north of the Buller; this is the second rush to this spot, the first having collapsed about 18 months since. The prospects of the locality are stated to be good, but the land through which the lead of gold is believed to run is limited. The diggings at Buller and Grey (New Zealand) are reported holding out well; the diggings are extending from the coast in several places, and there is no reason to doubt that the field will continue remunerative for many years. Hunt's (Shotover) claim on the Thames gold field (New Zealand) has been formed into a company; the claim is divided into 224 shares, of 1000*l.* each, or 224,000*l.* in all. This sum represents the value of the claim and plant. A fine specimen of waterworn gold and quartz, weighing 40*oz.*, has been brought to Auckland (New Zealand) by two men from Kennedy's Bay. The nugget was sold at the Bank of Australia, and on being crushed and retorted it turned out 23*oz.* of gold, or more than half the weight of the stone. The men stated that they had been prospecting at the bay and neighbourhood for nearly nine months, and that this was the first turn of good luck which they had had. The

increasing productibility of the Thames gold field had given a decided stimulus to affairs at Auckland and surrounding district.

#### REPORT FROM SCOTLAND.

**Sept. 8.**—Our Pig-Iron Market, which was steadily improving in prices, received a check on Monday, when the telegrams announcing the serious illness of the Emperor of the French brought also the intelligence that the leading exchanges in Europe had become injuriously affected, and depression of stocks was the result. Parties who had purchased pigs with the intention of holding, immediately began to realise, and prices have continued to fall since. Thus, in two days we lost not less than 10*s.* a ton of the advance which we had gained, and prices which closed on Friday at 53*s.* 6*d.* cash, and 53*s.* 8*d.* a month, were reduced yesterday to 52*s.* 8*d.* cash, and 52*s.* 11*d.* a month, with rather sellers at close. A further depression prevailed to-day, 52*s.* 9*d.* and 52*s.* 8*d.* cash, and 53*s.* to 52*s.* 10*d.* a month, having been accepted for about 10,000 tons, closing buyers a shade less. No. 1, g.m.b., 53*s.*; No. 3, 52*s.*; Coltness, 63*s.*; Gartsherrie, 67*s.* 6*d.*; Calder and Summerlee, 58*s.*; Glengarnock, 55*s.* 6*d.* The shipments of the week from the Scotch ports are still in advance of those for the corresponding week last year, the totals being, this year, 12,975 tons; last year, 11,735 tons; the difference being 1240 tons in favour of this year. A number of the Eglington furnaces were lighted at the end of last week, and it is expected that the whole number (eight) will be in operation in a day or two. The improved demand for Manufactured Iron continues. Some makers are reported as getting rather better prices, but we have not sufficient authority for changing last quotations. Best bars, 7*s.*; second, 6*s.* 12*s.* 6*d.* to 6*s.* 15*s.*; rails in demand, at 7*s.* 5*d.*; and one or two makers who accepted contracts at 7*s.* would be glad to get quit of them, as they are not making satisfactory progress; angle-iron, rather flat, at 7*s.* to 9*s.*; nail-rods wanted, at 7*s.*; pipes, 4*s.* 15*s.* to 6*s.* upwards, according to size and speciality of make. Plates are meeting with less enquiry, at from 7*s.* to 9*s.*

The Seaborne Coal Trade, for the week just ended, is fully an average one, the quantity shipped being 37,835 tons, against 36,725 tons in the corresponding week last year; but the home consumption is limited, and prices in both cases have not improved. Following the action of the mines in this district, the Wishaw men last week resolved to send deputations to each of the works before Sept. 8 to ask an advance. How the masters will deal with such a deputation is not known, but it is thought by some that they will rather accept of a strike for a short time than pay the advance in the present state of the coal market.

The new line of railway between Glasgow and Coatbridge, promoted by the North British Railway Company, is nearing completion, and will greatly add to the means of transit for minerals and manufactured iron between the towns named.

Caird and Co., Greenock, have contracted with the Hamburg-American Steamship Company for a screw-steamer of 3000 tons, and 600-horse power. The Aberdeen Steamship Company have contracted with Elder and Co., Govan, for a steamer of about 900 tons, for passenger and cattle traffic between Aberdeen and London. The vessel is to be elegantly fitted up, and will contain stalls for 240 cattle. She is expected to make the passage in 33 hours, and will cost not less than 28,000*l.*

The Floating Telegraph Station Company, who aim at opening their first station at the end of October, are preparing ships for the purpose, some of which are building at Dumbarton. One is to be stationed off the Firth of Forth, in order to lay in the cable of the northern circuit, and a second one will be anchored some miles to sea from Falmouth; the latter the company expects to intercept the Indian, Mediterranean, and part of the Atlantic traders. All the vessels are to be moored with powerful mushroom anchors. These ships are intended to serve precisely as telegraph stations on land to vessels seaward and homeward bound. They will receive and take telegrams from captains to owners of ships, and countermand sailing orders; and they will also be at the service of the passengers.

We have great pleasure in recording the fact that, at a meeting of the Trustees of the Andersonian University here, the munificent offer of 10,000 guineas was made, by Mr. James Young, for the endowment of a Chair of Technical Chemistry in that University, with liberty to found scholarships and bursaries in connection therewith. The gift was most cordially accepted, and the name of W. H. Perkin, F.R.S., London, was introduced in connection with the proposed lectureship. The founder's name has been known for a long time in connection with the manufacture of paraffin and paraffin oil; and we would hope that "the Young Chair of Technical Chemistry" may be productive of originating new, or extending the existing, products of the science into new developments of manufacturing industry.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

**Sept. 9.**—The favourable change which has taken place in the temperature during the past week has enabled the hands engaged at the iron-making establishments to resume work with something like regularity. A large quantity of rain has fallen within the past few days, but there are still complaints being made at some of the works as to a scarcity of water. There are several fresh contracts for considerable quantities of railway iron in the market; but owing to makers having their powers of production taxed to the uttermost, they decline to accept new engagements, except for next year's delivery, and at advanced rates. Considerable activity prevails at the rail mills in the district, makers being much pressed for deliveries, owing to the anxiety of buyers to get as large a quantity shipped as possible before the close of the Baltic navigation season, the period having arrived when sailing vessels will no longer be despatched with rails for the Muscovite empire, but arrangements have been made with several owners of steamers to convey large quantities of rails forthwith to the Baltic ports. For considerable time past a large amount of business has been transacted with the United States, and at present there is a fair prospect of such continuing to be the case, the hands at the principal establishments being now actively employed on orders which must be completed within the next six weeks. There is a steady increase in enquiries from India, and hopes are entertained that the improvement will progress until transactions with that part of the British empire arrive at the same satisfactory position as formerly. There is a steady flow of orders for the miscellaneous kinds, and the tone of the market is more cheerful than it has been for some time past. In the Pig-Iron Trade more activity prevails, and makers are generally of opinion that higher prices will be obtained before many weeks have elapsed. There is also a better demand for Tin-Plates, and prices are firmer than they have been.

Steam coal proprietors report that the improvement which recently set in in the Steam Coal Trade has not in any way been checked during the past week, and the large amount of tonnage now at the local ports gives hope of a still further improvement being shortly experienced. From several of the Mediterranean ports enquiries are more numerous than for some time past, and there is a steady increase in clearances, with fair prospect of still larger transactions taking place. There is an average amount of business being transacted with French buyers, and there is a slight increase in the quantity sent to the mail packet stations and some of the continental markets. The House Coal Trade is not characterised with any degree of briskness, but the season is near at hand when an improvement in the demand may be expected.

The death is announced of Mr. W. H. Forman, at the age of 76. The Forman family have been associated with the iron trade of South Wales for generations past, first at Penydarren, and latterly at Tredegar. Mr. Forman was the principal proprietor in the Tredegar Iron Works, and also in the Sirhowy Railway, and he was also largely connected with other undertakings. Like the Crawshays and Guests, he realised an immense fortune by his connection with the iron trade and other successful ventures, and in the more active years of his life he was known in London as "Ready Money Will," being always prepared with the cash for a sound and profitable speculation. By his death another of the links connecting the present with the early history of the Welsh iron trade has disappeared, and but few men remain who were the compatriots of Mr. Forman in his early days. Four to five millions is estimated to be the deceased gentleman's wealth.

Mr. Page, one of the engineers of the Woods and Forests, recently visited Begelly, Pembrokeshire, and was so struck with the superior quality of the anthracite coal raised there that he purchased a very large quantity for the use of the Government, and it is to be hoped that he will succeed in drawing the greater attention of the Admiralty to the superior advantages resulting from the use of this smokeless coal, the supply of which may be said to almost inexhaustible. The first truck-load of coal from the new pit at Darran arrived at

Rhymney on Saturday evening, the truck in which the coal was conveyed being gaily decorated.

The employees at the St. Helen's Foundry, Swansea, sat down, on Saturday, to an excellent supper, which had been provided at the expense of Mr. James Bolton, of Bristol, to commemorate his admission into partnership with Mr. W. Williams, who has hitherto carried on the foundry. Several toasts were proposed and responded to, and a very enjoyable evening was spent.

For some time past the Rhymney Iron Company have been engaged in sinking a new pit at the Deri, a few miles from Rhymney, in the adjoining valley, and on Wednesday the Four-foot vein was struck, which will, in all probability, cause the works to be started forthwith.

The exports of coal from Cardiff last month reached 206,336 tons, and the shipments coastwise 73,676 tons; from Newport the exports were 30,406 tons, and coastwise 72,082 tons; Swansea exported 59,405 tons, and coastwise 21,911 tons; and Llanelli exported 10,747 tons, and coastwise 16,778 tons. Cardiff also exported 28,511 tons of iron, and 5018 tons of patent fuel; Newport exported 20,099 tons of iron, and Swansea exported 1567 tons of iron and 8872 tons of patent fuel. As usual, Russia and the United States were the largest consumers for iron, more than two-thirds of the total exports having been cleared for those countries.

The Monmouthshire Railway and Canal Company have issued their report for the past half-year. A dividend at the rate of 4 per cent, per annum is recommended on the ordinary capital, after transferring 6000/- to the suspense relaying account, 1000/- to the reserve fund, and 1000/- to meet doubtful debts. The working expenses have been materially reduced, and it is evident that the position of the concern is rapidly improving. Some of the shareholders maintain that a dividend of at least 4½ per cent. ought to be declared, and a less sum transferred to the relaying account.

The Artillery Tin-Plate Works are to be sold by public auction, next month.

A dividend at the rate of 10 per cent, per annum has been declared for the past half-year by the Sirhowy Railway Company. The traffic of the line is chiefly derived from the Tredegar Iron and Coal Works.

**FERNDALE COLLIERY.**—A correspondent writes—"It is well known that all that is said about Ferndale, as well as other places, is not true, and this is the case with regard to a statement which has been published. The only truth, indeed, which it contains is that the three last bodies which were in the pit after the explosion have been found, and that they were buried on Aug. 31, in the burying ground of the parish of Llanwronno; and so the anxiety and pain caused to hundreds at Ferndale and other places by the non-recovery of these bodies have been happily removed. But it is not true that much drunkenness and dissolute conduct took place after the interment. Neither is it true that the colliers struck on the following day against Mr. Bedlington. They stayed out from work that day in order to afford an opportunity to carry out a resolution passed with the approval of the respected proprietors—to select men of understanding and experience to examine the colliery at stated intervals, in order to ascertain whether it was safe to work in it. This was done that day, and the pit was found quite as free from gas as any pit in the county. I can affirm that no strike has occurred in the place, nor is there any thought of such a thing. The colliers are working every day at an advance of 2d. per ton in their wages, and there is every effort made to secure their safety."

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

**Sept. 9.**—There is a steady demand for most kinds of iron. The leading makers are now fairly employed, but the great proportion of the works are not going much more than three days a week. At present better prices cannot be obtained, but, on the whole, the trade looks fully as hopeful. The dull season is, however, approaching, and it is probable that there will be some falling off before Christmas. Something has been said in a local newspaper about raising prices at the meeting on the 30th, but so far as present appearances are a guide, any such idea may be regarded as quite hopeless. The district only just keeps orders now—any advance at present would certainly prevent their coming.

The agitation amongst the iron-workers for an advance of wages is continued. At the adjourned meeting, on Saturday evening, it was agreed to forward copies of the memorial proposed to each works in the district, with a view to all the men signing it, and that it should be presented to the masters not later than on Tuesday next. The advance asked for is 1s. a ton on puddling, and 10 per cent. on millmen's wages. Those present pledged themselves to promote a reunion among the men as members of the Iron-workers' Association, and was adjourned to Saturday week, when it was hoped every work in the district would send a representative. The course taken by the delegates has, in form, been eminently conciliatory and cautious. As yet they have carefully avoided pledging themselves to any decided step to enforce the demand they make. A conference seems a likely means of avoiding a collision.

The Miners' Conference for North and South Staffordshire and East Worcestershire commenced at Dudley on Monday, and sat during that and the following day. Mr. Breakwell, the miners' agent for the district, presided with singular judgment, moderation, and tact, and the proceedings entitle all who took part in them to great praise. Twenty-three collieries were represented. The reduction of the hours of labour in mines was first discussed, and the Chairman urged, for the sake of health, of longer life, and as affording the means of promoting their mental improvement, miners should work fewer hours. It was agreed that ten hours a day is sufficient for men who work in mines, and that the masters be requested to reduce the working time by two hours a day. A suggestion in favour of a half-day holiday on Saturday was not listened to. The consideration of the evils of the chartermaster system was passed over, but it was readily agreed that there should be a more frequent inspection of mines by Inspectors and Sub-Inspectors, who should be practical men, so as to insist on the observance of the rules, and to secure better ventilation. It was also agreed to ask the masters to pay by the ton, instead of by measure. The Conference showed judgment in not discussing for the present the question of wages. A very general feeling was expressed in opposition to the plan of working thick coal by the common plan, and in favour of getting it in two divisions, which would admit of using props, and a resolution affirming the superior safety of the latter plan was unanimously adopted, amidst loud applause.

There was a very earnest discussion on "the unsatisfactory way in which the surplus of the miners' field pay is dealt with." The practice exists in South Staffordshire of deducting 3d. or 4d. a week from the wages for sick pay, and the miners have strong belief that the amount paid as relief is far less than the amount received. No account is ever rendered, however, and the men warmly complain of this. It was resolved—"That the proprietors of every mine be requested to put forward a balance-sheet every year," which is not a very extravagant request. There appeared a feeling in favour of any excess to the Hartley Fund.

There was an earnest discussion on the want of education amongst the children of miners, which was adjourned, in the hope that the Rev. Mr. Sandford, a local Inspector of Schools, would attend on a future occasion. It was, however, agreed "That the present state of the miners is very unsatisfactory, so far as regards education;" and also, "That in the opinion of this meeting, no lad ought to be allowed to enter a pit until he is twelve years of age, and that after that time he should have an hour's schooling per day until he is sixteen."

The question of "the Surplus of the Hartley Balance" excited much interest, and every speaker endorsed the sentiments put forth originally in the *Mining Journal* in favour of making the money the nucleus of a fund for relieving widows and orphans and persons disabled by accidents, and a strong desire was expressed that it should be increased, and that the men should subscribe to add to its amount. Resolutions in accordance with these views were adopted, and also one of thanks to Mr. Frederick Smith, Lord Dudley's chief agent, and one of the trustees of the fund, for his conduct in insisting that it should be devoted to the special interests of miners suffering from accidents, or of those dependent upon them.

The second day's discussion was "On the utility of amalgamation of the miners of Great Britain." Mr. Pickard, delegate for North Lancashire advocated a National Union of Miners, with much force and ability, and read a striking letter from Mr. A. McDonald, who has gone over to the United States, advising care in taking any step, and perseverance in promoting union amongst the men in all districts, with a view to get all to work in obtaining better wages. A resolution was passed in favour of a general amalgamation, and Mr. Levi Britten was appointed with a commission to go amongst the miners and advocate amalgamation. Sympathy for, and a pledge to assist, the nailers was expressed, and the Conference separated.

It is now thought the long struggle in the nail trade will be soon concluded by the masters yielding part of the demands of the men.

**SOUTH MIDLAND INSTITUTE OF MINING, CIVIL, AND MECHANICAL ENGINEERS.**—The monthly meeting of the South Midland Institute of Mining, Civil, and Mechanical Engineers, was held at the School of Art, Wolverhampton, on Monday. Mr. Thomas Rose presided, and there were also present—Mr. James Cope, hon. sec., Mr. S. Bowley, Mr. D. W. Lees, Mr. S. Watkins, Mr. A. Morgan, Mr. J. P. Baker (Mines Inspector for South Staffordshire and East Worcestershire), and Mr. Thomas Walker. After the minutes of the last meeting

had been read and confirmed, some conversation took place with reference to a communication from Mr. J. Randall, of Madeley; and Mr. Bowley proposed "That this Association make a personal inspection of the boundary of the Staffordshire and Shropshire Coal Fields, on Sept. 20, for the purpose of the Institute, after their inspection, recommending a site for proving the existence of coal measures."—The proposition was seconded by Mr. Cope, and carried. Mr. Bowley observed that after that inspection had been made he should be prepared to propose a plan as to the ways and means for "proving." It was resolved that Mr. Tildesley's paper as to the Consumption of Smoke should be the first subject discussed at the next meeting of the Institute.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

**Sept. 9.**—There is considerably more doing at several of the lead mines in various parts of Derbyshire, and the prospects are far more encouraging than they have been, so far as shareholders are concerned. At the mines at Eyam, to which we have on several occasions alluded, there is very little change; in some instances the ore is being raised, whilst at other mines the men are engaged in driving out. In the neighbourhood of Hucklow, also, business is active, and a good deal of ore is being raised. There is a rather better demand for some qualities of manufactured iron, whilst the blast-furnaces in nearly all parts of the county are kept in full operation. In Coal the demand is gradually increasing, and there is rather more going from Clay Cross and other colliery districts into London than there has been, which is in some measure due to the moderate rates charged by the Midland, in comparison with those of the Great Northern, and also to the strikes at several of the collieries in South Yorkshire.

The officials of the Midland Railway Company have this week gone over the branch line between Chesterfield and Sheffield, which is now ready for the inspection of the Government official, and whose certificate will at once, it is expected, be the means of having the line opened almost immediately. On its route several new collieries have been opened out, and will, by means of the branch, be enabled to send their produce southwards, as the efforts made to obtain a special rate into Sheffield are understood to have failed, seeing that the Midland Company do a considerable carrying trade in coal from the Yorkshire side of Sheffield into that town, and are not likely to allow of an opposition which would be antagonistic to their own line. In addition to the New Collieries, the West Staveley Company, as represented by Messrs. Kerzop and Bainbridge, are pushing forward sinking operations, and some very powerful machinery is now being put down, whilst the necessary buildings are fast being completed. The colliery will be one of the largest in the district, and the coal area taken by the company is so extensive that a very large number of hands will be required for working it to the extent it ought to be. The valuable seams of ironstone in the district have not been overlooked, and, with the facilities afforded for converting into "pig" and manufactured iron, will be fully worked both at Unstone and in the neighbourhood of Dronfield.

In the Sheffield district a good business continues to be done in heavy iron and steel goods, armour-plates in particular, as well as railway materials, being in very good request. The iron works are also doing a fair trade in nearly all quantities of manufactured iron. At Milton two of the furnaces are blown down, but not out, and will shortly be again in blast. There is rather more doing in coal from the South Yorkshire district, and prices have slightly increased, but by no means have they reached that point which has prevailed at the same period of previous years. There is a little more doing with London in house coal, and also with Grimsby in steam qualities for the North of Europe, shippers being just now active in anticipation of the closing of the Baltic, which it is not expected will be open much longer. To Goole about an average tonnage is being forwarded for the home ports, and the same may be said regard to Lancashire. Coke is still in good demand for the use of the furnaces in Lincolnshire and other parts of the country.

How colliery explosions happen was shown by a case which was before the Wigan magistrates the other day. Two men were charged with smoking in the six-foot workings of the fiery Leigh Pit, at Haydock—the very spot where so many men perished by the explosion in June last. As it was stated, had coolly taken off their lamp tops, and lighted their pipes, notwithstanding they were well aware that by doing so they were placing their own lives and the lives of many others in jeopardy. The case had to be adjourned, in consequence of the flight to foreign parts of the principal witness. He left a note behind him, saying he dared not give evidence against the men.

**THE SOUTH YORKSHIRE COLLIES.**—The dispute on this question, which has been going on for four or five months, still continues, and there is no prospect whatever of anything like a termination of it. The struggle is one of the most severe, it is not the severest, that has ever occurred in the South Yorkshire coal fields, and what the end of it will be it is impossible to say. Commencing first at the extensive collieries of Mr. Benjamin Huntsman, near Sheffield, a dispute next arose at the Denaby Main Pits, near Doncaster, the proprietors of which determined to employ none but non-union miners. Shortly afterwards the owners of the extensive collieries at Thorncleiffe, which are about midway between Sheffield and Barnsley, gave the whole of their men notice for a similar reason. Since then at none of the collieries mentioned have miners been employed who are members of any Miners' Union, and of the South Yorkshire Miners' Association in particular. The struggle, consequently, is one which in its chief particulars resembles that which was so keenly fought at Clay Cross, in Derbyshire, two years ago. For some time after the struggle commenced much difficulty was experienced by the owners of collieries in getting men to fill the places of those who had left; but Mr. Huntsman states that he now has 600 miners in his pits, "daily adding to their number as the works are re-opened, or the demand for coal increases." At the Denaby Main Pits, too, it is said that sufficient miners are now at work to get the daily quantity of coal required. Though the struggle has lasted so long, the miners who are now out of employ remain in the neighbourhood of the pits, and depend for their subsistence almost entirely on the funds of the South Yorkshire Miners' Association. To keep them nearly 1000/- a week is required. This expenditure is partially met by increased levies on the part of those miners belonging to the Association who are in work, and by contributions from trade societies throughout the country. Whatever deficit there may be is made up by grants from the Association's funds. At the time the struggle commenced those funds amounted to several thousand pounds, all of which the officers of the Union expressed their willingness to spend rather than be beaten. Several attempts have been made by the Mayor of Sheffield to bring the struggle to an end by arbitration, but his efforts have been unsuccessful in getting the masters and the men together.

**THE SOUTH LANCASHIRE COLLIES.**—The annual demonstration of the miners of Wigan and district took place on Monday. About 2500 men walked in procession. At the meeting, on Amberswood Common, Mr. J. Booth, of Hyde, presided, and, after he had opened the proceedings, Mr. A. Tetlow, of Oldham, advocated the claims of the proposed General Association.—He was followed by Mr. Philip Casey, of Barnsley, secretary to the South Yorkshire Miners' Association, who stated that his society had paid 10,000/- a year for three years to sick members, and 9000/- during the last two and a half years for accidental death claims, while at the present time there were 114 widows and 270 children in receipt of aid. Up to Saturday last the amount paid in 27 weeks in support of the South Yorkshire strike was 17,000/- The speaker complained strongly of the masters in South Yorkshire, and said he was glad to be able to state that there were not three men in South Yorkshire, or out of Lancashire, working against the miners. He had great hopes of the ultimate success of the men.—Mr. Halliday of Farnworth, spoke of the proposal to agitate for an advance of wages, and said that if the masters refused to comply with the notices that would shortly be sent in for an increase, he should advocate such a cessation of labour on the part of the colliers as would show to the manufacturing community the value of coal, and would compel a compliance.—Mr. Aspinall, of West Houghton, referred to the confiscation of tubs in the Wigan district, and said that he knew of a case in which a collier had had 400 tubs "taken" in two years. With reference to the Tyldesley strike, he stated that the men would receive 10s. a week from the Union as long as the struggle lasted. Both Mr. Aspinall and the previous speaker reviewed the proceedings at the Manchester Conference, and recommended the meeting to assist in the formation of a General Union.—Mr. W. Pickard, miners' agent for the Wigan district, said that there had been paid by the local association for the district the sum of 20,951/- for funerals; the payments from the sick and accident funds from the various lodges amounted to at least 10,000/-; there had been granted to other districts 32,437/-, and to meet locked out or on strike the sum of 18,106/- had been allowed, making a total of 33,245/-, while the expenses of management had only been 2166/- Mr. Pickard spoke in favour of the erection of a miners' hall in Wigan, and the proposal was received with enthusiasm. In three weeks, he said, a demand would be made for an advance of wages equal to the last reduction, and if this was not successful they would "put a little more steam on."—Finally, it was unanimously resolved that the South Yorkshire miners should be further supported in the present struggle. On the occasion of the annual demonstration each member wears a "favour" which in former years has been of some gay colour. On Monday the ribbons were black and white, the former colour being displayed as a tribute to the memory of the many colliers who have been killed by the recent explosions.

#### THE NORTH OF ENGLAND IRON AND COAL TRADES.

**Middlesbrough, Sept. 8.**—There is no particular change to note in the state of the Iron Trade of the North this week; a steady tone prevails throughout. All the rail makers are just now very busy clearing off their orders for Baltic delivery. There is continued enquiry for railway iron, and prices are well sustained; and the prospect of next year's work warrants the belief that rates will stiffen. Ship-builders' iron in better demand; prices for angle-iron are somewhat better. Merchant iron generally is fairly enquired after, and masters may be said to be in satisfactory employment. A good demand still

exists for pig-iron, more particularly for forge qualities. The attendance on "Change here on Tuesday was not large, but a tolerable amount of business was done. Prices are—For No. 1, 48s.; No. 3, 44s.; No. 4, 43s., net cash at makers' works, or f.o.b. on the Tees. Shipments of pig-iron recently have been principally for France, Holland, Belgium, and Prussia. During the week ending the 4th inst. the foreign shipments of pig-iron from this port amounted to about 3900 tons, and those coastwise to about 3100 tons, whilst in merchant iron over the same period the total shipments from here were—foreign, about 2000 tons; coastwise, 1150 tons. The following is the monthly return of the Cleveland Ironmasters' Association for Aug.:-

MAKE OF PIG-IRON	Month ending Aug. 31, 1869	Tons 98,016
Corresponding month 1868	87,739	
Increase for 1869	10,277	
SHIPMENTS FOREIGN	August, 1869	16,245
	Corresponding month 1868	9,210
Increase for 1869	6,035	
SHIPMENTS COASTWISE	August, 1869	10,810
	Corresponding month 1868	16,161
Decrease for 1869	5,351	
MAKERS' STOCKS	July, 1869	65,964
	August, 1869	68,413
	August, 1868	91,965
WARRANT STORES	August 3, 1869	50,572
	August 31, 1869	46,192
	September 1, 1868	72,312

It will be seen that the total decrease of pig-iron in the district during August is 1730 tons, for whilst makers' stocks have gone up 2649 tons the warrant store stock has declined 4380 tons. It is reported that orders have lately been booked for a good deal of iron, which will be taken from warrant store; so that it is probable that railway companies' stock will show considerable further diminution before long. The contents of this store was 45,782 tons on Tuesday. The increase in foreign shipments during last month, as compared with the previous month, was about 3000 tons. Shipments coastwise during August, as compared with July, show about 4000 tons decrease.

A new branch of industry in the Cleveland district was commenced to-day, by the opening of Messrs. Hill and Ward's newly-erected wire works, to be called the Newport Wire Works. They are constructed on the newest and most recent improvements in all departments. Connected with the rolling premises the large guide mills, and in the drawing department an excellently finished engine, are by Claridge, North, and Co., of Staffordshire. The entire process of wire-making was shown to those present to witness the opening ceremony, who greatly admired the work. Wire is to be manufactured for telegraphic purposes, mines' ropes, &c., and we understand arrangements have been made with the Cleveland Bolt and Nut Company for the galvanising of the wire. The practical proof of the adaptability of Cleveland iron for wire-making is highly satisfactory to all interested in the welfare of this locality, and the commencement of this branch of the finished iron trade is a continued proof of the growing importance of the Cleveland district. The works occupy about an acre and a quarter of ground, are situated at a convenient distance between the Stockton and Darlington Railway and the Tees, and are about a mile from the Middlesbrough Railway station. Employment will be given to about 100 hands, and Messrs. Hill and Ward will be able to turn out about 100 tons of wire per week.

Though the Coal Trade is very dull, a little improvement is reported. Shipments show better totals, but while the pits are making slightly better hours they are not working on an average more than about three-quarter time. The agitation for a general Miners' Union, though it is taking root and spreading a little in North Durham, shows no signs whatever in South Durham.

#### TRADE OF THE TYNE AND WEAR.

**Sept. 9.**—The arrivals in the Tyne have been considerable, and many with cargoes—257 vessels having arrived in the Tyne, 48 being foreign, and the demand for shipping for the Baltic ports and others has been very brisk. The rates to the Mediterranean are 18/- per keel; to Brindisi, 17/- per keel; and from 20/- to 21/- to Port Said and Alexandria. As the season will soon draw to a close for shipping to Cronstadt, &c., much activity prevails in getting cargoes of coal, iron, &c., away. On the Wear a considerable amount of business has been done also on foreign account, but the coasting trade is rather flat, freights to London being 5s. 9d. to 6s. per ton. To Hamburg, 8/-, &c. The arrivals at the Hartlepools have also been good, 185 vessels having arrived, only a few having cargoes. The sailings have been 149 vessels, mostly with coal cargoes, a few only having iron.

The Iron Trade continues brisk, there being a good demand for rails, plates, &c., and better prices may confidently be expected very soon. The Consett Iron Company's half-yearly meeting has been held, and a dividend declared at the rate of 10 per cent, per annum. This is the highest dividend paid since the company was re-organised, and the shareholders have every reason to be satisfied with the management, which has proved most successful. The Consett Iron Company, are famous for the manufacture of heavy rails, ship-plates, &c. It is understood that Mr. Priestman, the general manager, is about to retire, which

an eminent chemist, and it is thought by many that a substance may be discovered by the chemists of the present day sufficient to force down and fracture coal without producing an explosion or igniting explosive gases.

A very animated discussion took place on the subject of Mechanical Ventilation, and the relative merits of the Fans of Lemieille and Guibal, the subject being introduced by the paper of Mr. Steavenson, "On the Lemieille Ventilator." It is difficult to determine with sufficient accuracy the relative merits of those complex machines, but sufficient has been done to prove that both possess great merit, and are capable of putting a large quantity of air into circulation where the resistance of air-ways of great length have to be overcome. In the course of the discussion it was proposed to erect two machines at a colliery—that is, a Lemieille and a Guibal—and thus demonstrate the real and relative merits of the machines by experiment, the varying lengths and dimensions of air-ways at different collieries almost making it impossible to determine with sufficient accuracy by any other process. However, this was not agreed to, and, as already remarked, there is no doubt that both machines are very useful, and they are destined to come into extensive use in future.

A beautiful working model of a Ventilating Fan, the invention of Mr. Lloyd, of the Lilleshall Works, was exhibited. It is what is called an open running fan, but there are doors which can be closed, if necessary, to prevent any injury to the working of the fan on the occurrence of high winds. The working of the fan was well explained by one of the officials at the works where it has been erected, and he gave an account which he had received of an experiment which had been made with it. This, it appears, is only a preliminary experiment, the fan being placed in a drift 50 yards in length, connected merely with 10 yards of downcast shaft, and a similar ascent from the fan. In this experiment a speed of 60 revolutions per minute was attained, which produced upwards of 50,000 cubic feet of air per minute, the water gauge being under 1 inch—a very low water gauge, it will be noticed; indeed, the drag is nearly *nil*, as no workings were connected with the fan, and when this connection is effected an experiment which will test the value of the machine will be made. The trial alluded to is precisely similar to starting any other engine without the load; for instance, it closely resembles a trial made with a locomotive engine on the stocks, before being placed on the road; or the trial of a hauling engine, before the drums and ropes, with wagons, are attached. It was stated that in this experiment upwards of 50 per cent. of the power applied was utilised. Accounts of further experiments with this machine will be anxiously looked for. Some discussion took place on the paper of Mr. Waller, "On Steam Boilers," and some valuable information was given by that gentleman, which concluded the proceedings. No determination has been arrived at as yet respecting the proposed meeting of the members of the institution in the Midland Counties.

#### MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY.

Patent Agent and Adviser, Memb. Soc. Arts, Assoc. Soc. Eng.

Mr. JOHN DAGLISH, of Dean House, Seaham Harbour, Durham, has specified a patent for apparatus for lubricating the axles of coal tubs, and other wagons running on rails or tramways. This invention consists in the application of circular brushes of bristles, or equivalent materials, to grease the axles of wheels of coal tubs or other wagons, whilst moving over the rails. The oil, grease, or other lubricating matter is deposited in a box below the shaft on which the brushes revolve, in such a manner as to allow part of the brushes to be constantly immersed in the lubricating matter. The necessary motion to bring the lubricating matter up to the axles is obtained by having a ring or disc of India-rubber, or other suitable material, attached to one or two wheels or discs on the circular brush shaft, or on an auxiliary shaft, the ring or disc being of a sufficient diameter to allow it to come in contact with the axle of the tub or wagon, whereby a partial revolution of both discs and brushes is effected. This movement brings the part of the brushes immersed in the lubricating matter up against the bearing of the axles, thereby causing them to be uniformly and regularly lubricated. The India-rubber disc may be attached either to the circular brush shaft or to a second shaft, which gives motion to the brush shaft by means of spur gear or friction wheels of India-rubber or other material, or by other means of transmitting motion, so as to cause the brush shaft to revolve at a greater or less rate than the India-rubber disc, according as it may be wanted, and in an opposite or the same direction, as required.

Mr. EDWARD CRADDOCK, of Camberwell New-road, has obtained a patent for a portable punch for punching metals. This punch is made as follows:—To a body made of metal are connected two metallic arms, one of them being fixed to the upper part of the body (or it may be cast or made in one piece with it), and the other, which is moveable, is secured to a quick-threaded screw passing through the centre of the body of the apparatus, to the lower extremity of which screw a punch is firmly secured. At the outer end of each arm is fitted a jaw or joint, made capable of revolving, and in each jaw or joint a stud or nut is placed, which is also made capable of revolving. A "screw," or circular piece of steel, one half of which is threaded as a right-hand screw, and the other half as a left-hand screw, is passed through the studs, one end being so formed as to allow a handle or key to be fitted thereto to operate the screw. On the "screw" being turned by the handle or key, the double action of the screw causes the moveable arm to approach to or recede from the other arm, and causes the punch to be forced down by means of the quick-threaded screw secured to the moveable arm and to it, thereby causing the desired punch or perforation to be made in the metal submitted to the operation. In the lower part of the body of the apparatus a space or cavity is formed to admit the metal plate to be operated on under the punch. In the lower part of the space is fitted a small bed or die, having a hole in the centre immediately under the punch, through which the pieces of metal, as they are punched, drop down out of the way.

#### RAILWAY WAGON WORKS, BARNSLEY.

MESSRS. G. W. AND T. CRAIK  
ARE PREPARED TO  
SUPPLY COAL AND COKE WAGONS  
OF EVERY DESCRIPTION,  
Either for cash, or by deferred payments through wagon-leasing companies.

WAGONS PROMPTLY REPAIRED.

#### BOWLING IRON.

TO ENGINEERS, IRON FOUNDERS, BOILER MAKERS, MACHINISTS,  
COLLIERY OWNERS, RAILWAY CONTRACTORS, AND OTHERS.

FREDERICK AND WILLIAM FIRTH  
IRON MERCHANTS,  
WATER LANE AND WILSON STREET, LEEDS,  
Having made arrangements with the BOWLING IRON COMPANY for the  
SALE of their BARS, PLATES, FORGINGS, STEEL, and OTHER CASTINGS,  
beg to inform their friends and the public that they now hold a large assortment of  
BOWLING BARS, in addition to their usual stock of

KIRKSTALL AND STAFFORDSHIRE IRON,

PLATES, SHEETS, HOOPS, ANGLE AND TEE IRON,  
Steel, Anvils, Bellows, Vice, Hydraulic and other Lifting Jacks, Best Best  
Tested Crane Chains (all sizes), Pulley Blocks, Shovels, Nails, Grindstones,  
Bridge Bars and Train Plates for Colliers, Flat Bottom and Other Rails.

#### TANK LOCOMOTIVES, FOR SALE OR HIRE.

HENRY HUGHES AND CO.,  
LOUGHBOROUGH.

#### THE BEVERLEY IRON AND WAGON COMPANY (LIMITED).

MANUFACTURERS OF RAILWAY WAGONS, WHEELS, and AXLES—  
CARTS, LORRIES, WOOD WHEELS, PATENT WROUGHT IRON WHEELS  
and AXLES, BARROWS, PUMPS, DOUBLE PURCHASE CRABS, &c., &c.  
IRON WORKS—BEVERLEY, YORKSHIRE.  
Catalogues free by post.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and  
of the WEST BRITON MINING COMPANY.—TENDERS will be RECEIVED by the Registrar of the Vice-Warden's Court, at Truro, until Wednesday, the 15th day of September instant, stating the highest price which will be given for the WHOLE or ANY PART of the

#### MACHINERY, MATERIALS, AND OTHER EFFECTS

belonging to the said company, and now at WEST BRITON MINE, in the parish of CROWAN, viz.:—

ONE 48 $\frac{1}{2}$  in. cylinder PUMPING ENGINE, with first piece of rod, and TWO BOILERS, one 9 the other 11 tons; balance bob, shars, about 60 ft. pulleys and stays complete, 10 arm capstan, span beam and stays complete, shaft horse, staples and glands, fenders off, 6 pair of yokes, several pump rings of different sizes, new and old iron, double and treble iron blocks, firegrate, wire sieve, small beam and scales and 3 $\frac{1}{2}$  cwt. of weights, 12 fms. 1 $\frac{1}{2}$  in. chain, winze tackles, Norway and other timber, 1 $\frac{1}{2}$  cwt. red lead, brass stand and scales, with several small brass weights, American clock, account house and office furniture.

For inspection, apply to the Bailiff in charge at the Mine.

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

Dated Truro, Sept. 6, 1869.

In the Court of the Vice-Warden of the Stannaries.  
Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and  
of the PROSPER UNITED MINING COMPANY.—TO BE SOLD, under  
the direction of the Registrar of the said Court, BY PUBLIC AUCTION, on  
Tuesday, the 14th day of September instant, at One o'clock in the afternoon,  
at the

#### PROSPER UNITED MINES,

In the Parish of ST. HILARY, within the said Stannaries, in One Lot, the  
INTEREST of the company in the several SETTS or GRANTS under which its  
mining operations have been carried on, and also the undermentioned

#### MINING MACHINERY AND MATERIALS, viz.:—

HODGE'S SHAFT.  
70 in. cylinder PUMPING ENGINE, with THREE 10 ton BOILERS.

20 in. CYLINDER WINDING ENGINE, 6 ft. stroke.

STEAM CAPSTAN, and 9 ton BOILER.

Balance bob and connection; shears, and 2 10 ft. shovels; 160 fms. of 15 in.

capstan rope; 60 fms. 20 in. pitwork; 20 fms. 14 in. ditto.

LOUISA SHAFT.

70 in. cylinder PUMPING ENGINE, with THREE 12 ton BOILERS.

20 in. WINDING ENGINE, STEAM CAPSTAN, and 9 ton BOILER.

Balance bob and connection; shears; 160 fms. of 15 in. capstan rope; 100 fms.

20 in. pitwork.

HODGE'S SHAFT.

60 in. cylinder PUMPING ENGINE, with TWO 12 ton BOILERS.

Capstan and rope; shears; balance bob; 90 fms. 15 in. pitwork; 12 fms. 19 in.

ditto.

RODNEY SHAFT.

About 40 fms. 11 in. pitwork; capstan and rope; shears; balance bob.

24 in. STAMPING ENGINE, 4 axles, with 64 head stamps; 2 calciners; crusher.

50 ft. WATER WHEEL, 5 ft. breast, and 2 axles and 32 head stamps; bud-

lees, dressing tools, &c.

SMITHS' SHOP.

7 in. cylinder BLAST ENGINE; 4 anvils; quantity of smiths' and miners' tools, &c.; dry tube; 3 horse whisks; ladders; launders; old and new timber and iron; account house furniture, and a quantity of various other effects in general use in mines.

The above may be inspected on application to the Agent on the mine, and further particulars obtained at the office of

HODGE, HOCKIN, AND MARRACK, Solicitors, Truro.

(Agents for Tufnell Southgate, Solicitor, 7, King's Bench Walk, Temple, London.)

Dated Registrar's Office, Truro, 1st September, 1869.

In the Matter of the Companies Act, 1862,  
AND IN THE

MATTER OF THE RHOS HALL IRON COMPANY (LIMITED).

TO BE SOLD, pursuant to the Order of the High Court of Chancery, BY AUCTION, with the approbation of the Master of the Rolls, at the Mart, in the City of London, on Tuesday, the 21st day of September, at One o'clock, by Mr. GEORGE P. CLARK, the person appointed by the said Judge, all that valuable LEASEHOLD MINERAL and SURFACE PROPERTY, known as the—

#### RHOS HALL, OR LLANERCHRUGOG AND LLWYERMION ESTATES.

In the parish of WREXHAM, and RUABON, in the county of DENBIGH, containing TWO HUNDRED AND SIXTY ACRES of MINERALS, COAL, IRON-STONE, extensive deposits of FIRE CLAY and FREESTONE, and THIRTY-FIVE ACRES of SURFACE (the same more or less), with the FIXED PLANT and MACHINERY thereon, and with the option to the purchaser of taking the movable plant, machinery, and chattels by valuation.

The property consists of the leasehold iron and brickmaking works, farm-buildings, and about thirty-six acres of arable and pasture land and mineral grant, over the well-known and extensive property, called the Rhos Hall and Llanerchruog Estates, situated in the parish of Wrexham and Ruabon, in the county of Denbigh. The grant occupies about 266 acres, held for terms, of which 85 years are unexpired at Ladyday, 1869, subject to the nominal rent of 275 per annum, with the privilege of using the surface land adjoining that comprised in the grant, upon payment of a rental of £2 per acre. The farm-buildings and 36 acres of land are let to Mr. Davis, at a rental of, per annum, £30.

A branch of the Shropshire Union Railway, called the Llanerchruog Branch, passes through the estate within a few yards of the blast furnaces, thus affording direct communication to all the best markets in the country.

The vendors reserve to themselves the right of selling subsequently the moveable articles and effects by auction on the estate.

Particulars and conditions of sale may be had gratis of Messrs. SHARP and ULLITHORNE, 1, Field-court, Gray's Inn, London; Messrs. DALE and STRETTON, 3, Gray's Inn-square, London; Messrs. RUTTER, NEVE, and RUTTER, of Wolverhampton, Solicitors; Mr. GEORGE SCOTT, 2, Bond-court, Wabrook, London, the Official Liquidator; Messrs. INGLEBY, WRAGGE, and EVANS, of Birmingham, Solicitors; Mr. RAYNER of Wrexham, Denbighshire, Solicitor; and of the Auctioneer, 49, Chancery-lane.

ROBERT MARSHALL, Chief Clerk.

SHARP and ULLITHORNE, Gray's Inn.

Dated this 9th day of August, 1869.

In Chancery.

IN THE MATTER OF THE SWANSEA ZINC COMPANY (LIMITED),  
SWANSEA, GLAMORGANSHIRE.

MESSRS. EDWIN WATTON AND CO. are instructed to SELL, BY AUCTION, by order of the Official Liquidator, JOHN SUTCLIFFE HURNDALL, Esq., and with the approbation of the Master of the Rolls, and the consent of the Mortgagors, at the Mackworth Arms Hotel, Swansea, on Thursday, September 23, 1869, at Five for Six o'clock P.M. precisely, subject to such conditions of sale as shall then be produced, all the VALUABLE LEASEHOLD SPECTER WORKS, called

#### THE CROWN SPECTER WORKS.

Previously belonging to and carried on by "The Swansea Zinc Company (Limited)," situate upon the Burrows, in the parish of LLANSAMLET, near SWANSEA, in the county of GLAMORGAN; together with the gatekeeper's lodge, clay and calamine mills, warehouses, offices, laboratory and store-rooms, belonging thereto, and a piece or parcel of land thereto adjoining, and containing 12 A., more or less.

The above works and land will be sold for the residue of a term of 60 years, commencing from the 25th of December, 1865, granted theron by an Indenture of lease, subject to the payment of the yearly rent of £3000 therein reserved, and to the observance and performance of the other covenants and conditions therin contained.

Copies of the same lease can be seen at the offices of Messrs. G. B. and H. MURLY, Old Post-office Chambers, Bristol; or at the offices of Messrs. VALLANCE and VALLANCE, 20, Essex-street, Strand, London.

The properties will be sold with all rights of way, and other rights and easements belonging or appertaining thereto, and subject to all rights of way, and all other rights and easements to which the same are now subject or liable, or which in any way affect the same, or any part thereof.

The inventories of the trade fixtures, fixed and movable plant, to be produced at the time of sale, may be seen at the offices of Messrs. G. B. and H. M. MURLY, and Messrs. VALLANCE and VALLANCE. The aggregate value of the effects comprised in the same inventories is about £13000.

The above works are in full working order and condition, producing about 35 tons of spelter per week, and will be sold as a going concern.

The premises may be viewed by cards only, which will, on application, be furnished by the proprietor of the Mackworth Arms, or by the auctioneers, or solicitors to the vendors.

For further particulars, apply to Messrs. W. and A. F. MORGAN, Solicitors, Waterlo-street, Birmingham; Messrs. VALLANCE and VALLANCE, Solicitors, No. 20, Essex-street, Strand, London; Messrs. G. B. and H. MURLY, Solicitors, Bristol; and the Official Liquidator, J. S. HURNDALL, Esq., Shannon-court, Bristol; or to the Auctioneers, Taunton, and Shannon-court, Bristol.

#### CWMLANWYRCH LEAD MINE, BETTWYS-Y-COED, NORTH WALES.

TO BE SOLD, BY TENDER, the INTEREST of the proprietors now working the said Mine, which is situated within one mile of the Bettwy-y-Coed Station. The Mine has been worked about a year and a half, and a considerable quantity of ore has been raised and sold, at a highly remunerative price.

Intending purchasers will be supplied with particulars by Mr. F. J. COLLING, Rhyl, to whom tenders may be delivered on or before Sept. 18 next. The Agent at the Mine will also give any information.

The proprietors do not bind themselves to accept the highest or any tender.

Rhyl, August 30, 1869.

#### VALUABLE FREEHOLD PROPERTY, COAL AND IRONSTONE MINES, PLANT AND MACHINERY, AT IPSTONES, STAFFORDSHIRE.

M. HARROP WILL SELL, BY AUCTION, at the Crewe Arms Hotel, Crewe, on Thursday, the 23rd day of September, 1869, at Three for Four o'clock in the afternoon punctually, in the following or such other lots and in such order as may be determined upon by the agents of the vendors at the time of sale, and subject to such conditions as will be then produced.

## BICKFORD'S PATENT SAFETY FUSE

Obtained the PRIZE MEDALS at the "ROYAL EXHIBITION" of 1851; at the "INTERNATIONAL EXHIBITION" of 1862, in London; at the "IMPERIAL EXPOSITION" held in Paris, in 1865; at the "INTERNATIONAL EXHIBITION," in Dublin, 1865; and at the "UNIVERSAL EXHIBITION," in Paris, 1867.



BICKFORD, SMITH, AND CO., of TUCKINGMILL, CORNWALL, MANUFACTURERS OF PATENT SAFETY-FUSE, having been informed that the name of their firm has been attached to fuse not of their manufacture, beg to call the attention of the trade and public to the following announcement:—EVERY COIL of FUSE MANUFACTURED by them has TWO SEPARATE THREADS PASSING THROUGH THE COLUMN OF GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SEPARATE THREADS AS THEIR TRADE MARK.

ESTABLISHED MORE THAN HALF A CENTURY.

## THE TAVISTOCK FOUNDRY, IRONWORKS AND HAMMER MILLS,

which have been carried on for more than half a century by

MESSRS. GILL AND CO.,

and obtained a

HIGH REPUTATION FOR

SHOVELS AND OTHER TOOLS

as well as for

ENGINEERING AND FOUNDRY WORK

have been purchased by

MESSRS. NICHOLLS, MATHEWS, AND CO., BEDFORD IRONWORKS, TAVISTOCK.

For thirty years Messrs. NICHOLLS, MATHEWS, and Co., have been the proprietors of the latter works, but have now removed to the

## TAVISTOCK FOUNDRY,

where, having the advantage of a never-failing stream of water of upwards of 200-horse power, they will have increased facilities for speedily and satisfactorily executing all orders entrusted to their care.

Manufacturers of STEAM ENGINES and BOILERS, on the newest principle; pump work, brass and iron; hammered iron shafts, of all sizes; miners' steel and iron tools.

N. M., AND CO. have had a LARGE EXPERIENCE in PREPARING MACHINERY for FOREIGN MINES, as well as selecting competent mechanics to erect the same.

N. M., AND CO. have always a LARGE STOCK of SECOND HAND MATERIALS.

WILLIAM HANN AND SON beg to offer to SUPPLY COLLIERIES OWNERS, and the public generally, with their improved STEPHENSON AND CLANNY PATENT SAFETY LAMPS,

which have been proved INEXPLOSIVE in the testing apparatus in the highest obtainable current of gas, of 48 ft. per second. These lamps are simple in their construction, burn with a steady and nearly uniform flame in moderate currents, give a good light, and are in every respect practicable lamps. Price, No. 1, 8s. 6d. each; if in quantities of a dozen and upwards, 8s. each; ditto, ditto of 100, at 7s. 6d. each; ditto, ditto of 200, at 7s. each, delivered free. No. 2, 1s. each above the No. 1. Orders received by—

WILLIAM HANN AND SON,  
HETTON COLLIERY, FENCE HOUSES.

## IMPROVED PATENT COAL-WASHING MACHINE, AND MINERAL ORE SEPARATOR.

EDWARDS'S PATENT.

THE MOST ECONOMICAL AND EFFECTIVE MACHINE MADE.

See extracts from testimonial below:—

BLAINA IRON WORKS.—"Effectual and economical. The most simple and serviceable apparatus we know."

BRYMBRO IRON WORKS.—"Its performance equals our expectations, taking but little power to work it, and not requiring much water."

J. BROWN, Esq. (Messrs. Brown and Jeffcock).—"To judge from the model, the most efficient machine I have seen."

Capt. J. BAIL (late of the Minera Mines, Wrexham).—"Its general adoption, in my opinion, cannot fail."

Capt. ISAAC FRANCIS.—"A great improvement in the department of dressing ores."

Mr. B. J. EDWARDS.—"Perfect in its action, and economical in working."

Vicomte de SECQUEVILLE (National Mining Society of Lombardy).—"It works well and quickly, and without any loss of lead or silver."

Messrs. BELL BROTHERS (Middlesborough).—April 26, 1869: "The washing machine is now at work, and is giving satisfaction."

LILLESHALL COAL AND IRON COMPANY.—June, 1869: "We are happy to say your washing machines are working satisfactorily; they have done good average work for some time past."

THORNCLIFFE, FOREST OF DEAN, &c., &c.

VERY GREAT SAVING EFFECTED BY THIS MACHINE IN THE COST OF DRESSING LEAD, COPPER, and other ORES.

Full particulars on application to—

MR. E. EDWARDS, C.E.,  
22, BUCKINGHAM STREET, ADELPHI, LONDON.

## PATENT SELF-REGISTRATION COLLERY WINDING INDICATOR.

THIS INDICATOR, in addition to its ordinary use, INDICATES and REGISTERS THE NUMBER OF WINDINGS, thus enabling the Manager to check at a glance the returns of the Bankman or Clerk.

PEPPER MILL BRASS FOUNDRY COMPANY,  
DARLINGTON STREET, WIGAN,  
MAKERS.

## GENERAL MINING COMPANY FOR IRELAND (LIMITED).

MAKERS OF ZINC OXIDE.  
OFFICES, 29, WESTMORELAND STREET, DUBLIN.  
MINES AND WORKS, SILVERMINES, COUNTY TIPPERARY.

The Directors beg to intimate to PAINT and COLOUR MAKERS, INDIA RUBBER MANUFACTURERS, SHIPPERS, and the TRADE generally, that they have COMPLETED the ERECTION of WORKS for the MANUFACTURE of ZINC OXIDE, and that they are now producing ZINC WHITE of GREAT EXCELLENCE and PURITY.

Sample and terms shall be forwarded on application.

29, Westmoreland-street, Dublin. THOMAS BAKER, Secretary.



By a special method of preparation, this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of

I. AND T. HEPBURN AND SONS,  
TANNERS AND CURRIERS, LEATHER, MILLBAND AND HOSE PIPE MANUFACTURERS,

LONG LANE, SOUTHWARK, LONDON.

Prize Medals, 1851, 1855, 1862, for

MILLBANDS, HOSE, AND LEATHER FOR MACHINERY PURPOSES

COMPENSATION IN CASE OF INJURY,  
AND A FIXED SUM IN CASE OF DEATH,  
CAUSED BY ACCIDENT OF ANY KIND,

May be secured by a policy in the

RAILWAY PASSENGERS' ASSURANCE COMPANY.

An annual payment of £3 to £6 per annum, insures £100 at death, and an allowance at the rate of £6 per week for injury.

RAILWAY ACCIDENTS ALONE

May be provided against by insurance tickets for single or double journeys.

For particulars, apply to the Clerks at the Railway Stations, to the

Local Agents, or at the

OFFICES, 64, CORNHILL, and 10, REGENT STREET, LONDON.

WILLIAM J. VIAN, Sec.

HEALTH AND MANLY VIGOUR.—A Medico. Man, of Twenty Years' experience in the treatment of Nervous Debility, Spasmorrhœa, and other affections which are often acquired in early life, and unfit sufferers for marriage, and other social duties, has published a book giving the FULL BENEFIT of his LONG EXPERIENCE, GRATIS, with plain directions for the recovery of health and strength. A single copy sent to any address on receipt of one stamp.

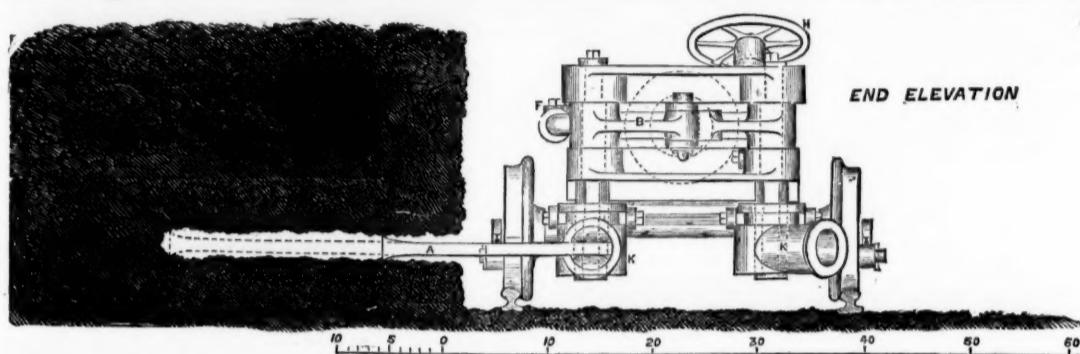
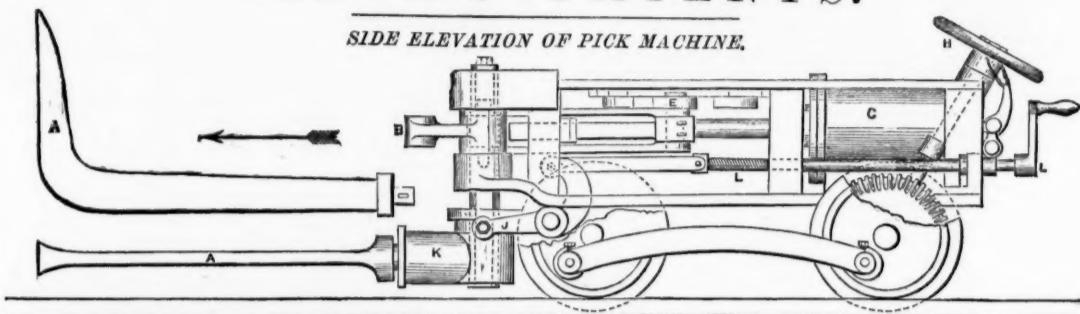
Address to the "Secretary," Institute of Anatomy, Birmingham.

## THE MINING JOURNAL.

COMPRESSED AIR COAL-CUTTING MACHINERY.

## FIRTH'S PATENTS.

SIDE ELEVATION OF PICK MACHINE.



These Machines are now working with the most perfect success,

Both practically and commercially.

They are portable, easily managed, and not more liable to get out of order than other ordinary machinery.

They EXPEDITE the OPENING of NEW PITS. There is LESS BREAKAGE of COAL, and a consequent INCREASE in its VALUE, with a DECREASE in its COST of PRODUCTION.

The VENTILATION of the MINE is IMPROVED, the RISK OF ACCIDENTS DIMINISHED, and the SEVERE PHYSICAL CONDITIONS of COAL-PIT LABOUR are, by the USE of these MACHINES, MODIFIED and MUCH RELIEVED.

For terms of use, and for admission to see the machines at work, apply to—

MR. FIRTH 15, YORK PLACE, LEEDS.

FOR LATHE AND PLANING TOOLS.

"R. MUSHET'S SPECIAL STEEL."

SPEED of LATHES may be advantageously INCREASED FIFTY PER CENT., and upwards; it is the most DURABLE STEEL in the Market, and, unlike all other steel, when forged into the desired shape, it REQUIRES NO HARDENING.

Mushet's TITANIC CAST STEEL for Lathe Tools, Chisels, Hammers, &c.

**MUSHET'S TITANIC BORER STEEL.**

Double Shear Steel; Spring Steel; Blister Steel.

TITANIC STEEL AND IRON COMPANY, LIMITED,

STEEL MANUFACTURERS,

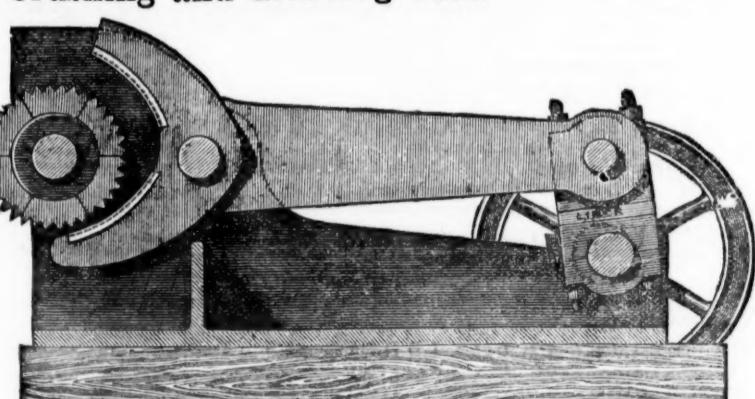
FOREST STEEL WORKS, COLEFORD, GLOUCESTERSHIRE.

LONDON: Mr. HENRY MUSHET, LOMBARD EXCHANGE, E.C. GLASGOW: Messrs. JOHN DOWNE and CO., 1, ROYAL BANK PLACE. NEW YORK: Messrs. CHARLES CONGREVE AND SON, 104 and 106, JOHN STREET.

## ARCHER'S NEW PATENT STONE BREAKER.

The most Efficient and Powerful Machine for Breaking Road Metal and for Crushing and Grinding Ores.

A short and powerful reciprocating motion is imparted to the lever with the squeezer on its end, and at the same time a slow revolving motion is imparted to the grinding or pulverising roller, thereby operating with a crushing action on the materials between the roller and the squeezer as they fall and are carried round by the turning of the roller. The relative distances of the operating faces from the roller are adjusted as required by varying the thickness of the liner in the connecting link. The periphery of the roller is fluted horizontally, and the faces of the operating lever are fluted vertically. The sizes of these flutes vary according to the material to be operated on, and to the size required to be broken.



SOLE PROPRIETORS—

THE DUNSTON ENGINE WORKS COMPANY, GATESHEAD-ON-TYNE.

NOW PUBLISHING, IN MONTHLY PARTS, BY M. AND M. W. LAMBERT, NEWCASTLE-ON-TYNE,

## A PRACTICAL

TREATISE ON MINE ENGINEERING.

BY G. C. GREENWELL, F.G.S., COLLIERY VIEWER,

MEMBER OF THE NORTH OF ENGLAND INSTITUTE OF MINING ENGINEERS, &c., &c., &c.

SECOND EDITION.

The work has been entirely re-written, and contains numerous new illustrations, in addition to the original ones. To be published in 16 monthly parts. Each part to contain 12 pages of letterpress, with four carefully lithographed illustrations printed in colours. Part I. on March 1, 1869. Each succeeding Part on the 1st of every month. Prospectus of the work may be had on application.

PRICE OF EACH PART, TWO SHILLINGS AND SIXPENCE.

**GWYNNE AND CO., ENGINEERS,**  
**ESSEX STREET WORKS, STRAND, LONDON, W.C.**

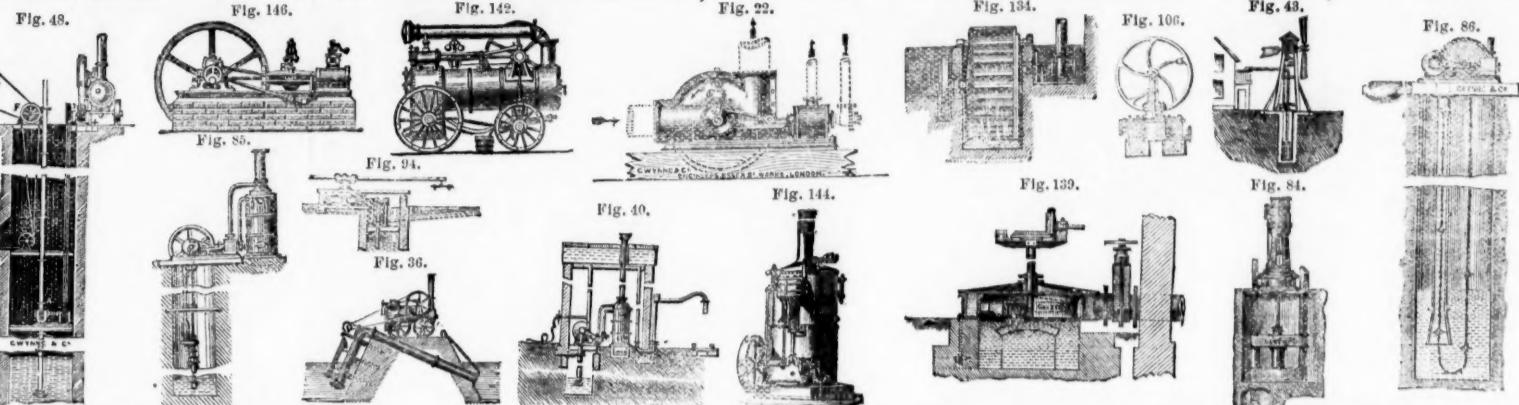


Fig. 144.—Vertical Engine, all sizes, from 2 to 20-horse power.  
 Fig. 146.—Horizontal Engine, from 4 to 100-horse power.  
 Fig. 142.—Portable Engine, from 2½ to 30-horse power.  
 Fig. 40.—Gwynne and Co.'s Combined Stationary Pumping Engine.  
 Fig. 139.—Turbine Water-wheel, from 1 to 300-horse power.

Fig. 22.—Combined Pumping Engine, all sizes, obtained Prize Medal, Paris Exhibition.  
 Fig. 85.—Deep Well Pumping Engine, all sizes.  
 Fig. 134.—Water-wheel Pumping Machinery.  
 Fig. 36.—Gwynne and Co.'s Patent Syphon Drainage Machinery.  
 Fig. 95.—Horse-power Pumping Machinery.

Fig. 86.—Chain Pump Pumping Engine.  
 Fig. 48.—Deep Mine Centrifugal Pumping Machinery.  
 Fig. 84.—Double-acting Vertical Pumping Engine.  
 Fig. 106.—Gwynne and Co.'s Improved Plunger Hand Pump.  
 Fig. 43.—Wind Power Pumping Machinery.

Steam Engines of all kinds and sizes, Hand and Steam Fire Engines, Water Wheels, Hydraulic Lifts, Cranes and Jacks, Steam and Water Valves, Hydraulic Presses, Sheep Washing Machinery, &c., &c.

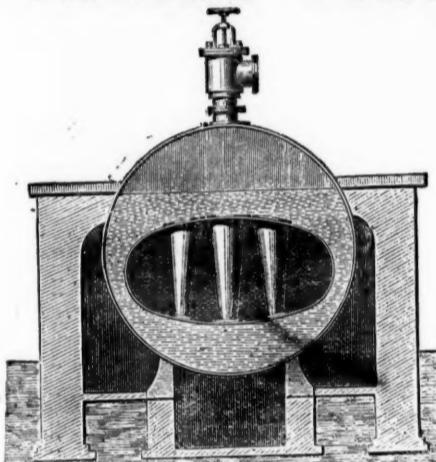
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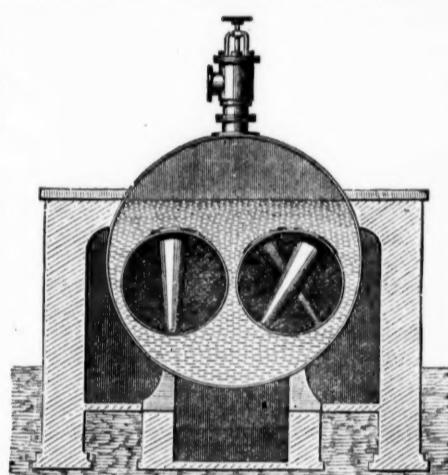
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